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Handbook on USSR Military Forces, Chapter VII: Logistics

War Department (USA)

Robert L. Bolin, Depositor

University of Nebraska-Lincoln, rbolin2@unl.edu

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Technical Manual TM 30-430
Handbook on USSR Military Forces
Chapter VII
Logistics

Robert L. Bolin, Depositor
University of Nebraska-Lincoln, rbolin2@unl.edu

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Handbook on USSR Military Forces

Chapter VII

Logistics

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Comments

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Abstract

TM 30-340, Handbook on USSR Military Forces, was "published in installments to expedite dissemination to the field." TM30-430, Chapter VII, 1 March 1946, "Logistics," is a discussion of rear area organization, administration, supply, transportation, medical services, and maintenance and repair services. This chapter is illustrated with organizational charts.

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CHAPTER VII

LOGISTICS

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CHAPTER VII

LOGISTICS

INTRODUCTION

1. GENERAL

The supply and transportation system of the Red Army is characterized by rigid adherence to several basic concepts. These include long-term planning, command position of the chiefs of rear services, grouping of supply and maintenance responsibilities according to arm, differences of supply systems between rifle and mobile formations, dependence on rail transportation, and priority of ammunition and fuel over all other classes of supplies.

The planning of supply and transportation requirements of the Red Army is coordinated with the production and delivery programs by the civilian commissariats. Specifications for civilian goods parallel specifications for military goods. Tractors, for example, which are manufactured for civilian use are built according to military specifications. They are included in the system for mobilization of the Red Army and are inspected periodically by representatives of the Red Army.

Key civilian commissariats, such as the Peoples' Commissariat of Transportation and the Peoples' Commissariat of Signal Communications, are organized along military lines. They are adaptable to military control.

2. RESPONSIBILITY

The Chief of the Rear Services of the Red Army is a deputy to the Peoples' Commissar of Defense. The chief of rear services, at each level of command, is a deputy to the over-all commander. He also may be referred to as the Deputy Commander for the Rear Services. Thus the rear services participate in the planning and coordination of all operations as well as in problems of transportation and supply.

Authority of the chiefs of rear services is second only to that of the over-all commanders and the chiefs of staff. Commanders of the rear area services are represented in the forward echelons of the

staffs. They are required to assume the initiative in supply and evacuation problems.

Red Army field service regulations specifically designate the responsibility for supply and transportation. The design, development, and production of equipment for various arms and services are the responsibility of the arm or service concerned. The chiefs of arms and services are charged with the procurement and distribution of supplies for which their arm is responsible down to and including the army. Transportation for the delivery of all supplies is controlled by the chiefs of rear services.

3. SUPPLY AND EVACUATION

Supply and evacuation systems for mobile formations and units which normally form the mobile reserve of the over-all commander differ from those of rifle formations and units in order to provide maximum flexibility and to guarantee the flow of fuel, ammunition, and replacements under varied conditions.

The flow of supplies to the Red Army from production centers is dependent almost entirely upon rail transportation. Rail transportation, therefore, is a key factor in all major plans. It is extended as far forward as possible. Although rail transportation usually extends only to army railheads, numerous instances of railheads being established in the rear areas of rifle divisions have been reported.

Narrow gauge lines are constructed to serve troops operating in mountainous terrain.

To achieve maximum coordination of rail transportation with military requirements, the People's Commissariat of Transportation was militarized early in World War II.

Supply and evacuation schedules for personnel and matériel are determined by a rigid system of priorities, especially with regard to the flow of supplies to the front lines. The delivery of ammunition and fuel always takes precedence over all other classes of supplies.

Supply and evacuation systems of the Red Army were modified, developed, and supplemented during

World War II according to the dictates of combat experience and tactical requirements. All transportation was consolidated under a single command. Supply was transferred from a staff function to a command function. An echelon maintenance system was established. The utilization of local resources and captured equipment became standard procedure for all levels of command.

Evaluation of the supply and evacuation systems of the Red Army must take into account the critical shortage of equipment. The shortage of railroad tank cars, tank trucks, special evacuation equipment, and ambulances was especially acute. Military pipe lines were virtually non-existent.

4. FUTURE TRENDS

It is expected that the Red Army improvement of its supply system will be directed toward improvement in quality and quantity of equipment, military highways, and railroad nets.

Section I. ORGANIZATION OF REAR SERVICES

1. GENERAL

The Chief of the Rear Services controls all transportation other than air transport (see Chapter XI, Air Forces) and all supplies except weapons, ammunition, and technical equipment. He supervises medical and veterinary services, road maintenance, and other service agencies.

The Chief of Artillery controls the supply of weapons and ammunition from the factories to front-line units down to rifle regiments. A special organization exploits captured weapons and matériel. Technical equipment for armored troops, chemical warfare troops, engineers, and signal troops is controlled by their respective supply organizations. Transportation for supplies is furnished the supply organizations of the Chief of Artillery and the technical services by the Chief of the Rear Services.

Because of the number of agencies at each command level concerned with supply, close coordination and supervision of their activities by the Chief of the Rear Services is essential. This coordination is implemented by centralized control of transportation.

2. PEOPLES' COMMISSARIAT OF ARMED FORCES

a. Chief of the Rear Services of the Red Army. The Chief of the Rear Services is one of the members of the Peoples' Commissariat of Armed Forces (formerly Peoples' Commissariat of De-

fense). He serves as a deputy to the Commissar of Defense in supply matters. He is assisted by a staff and a personnel department. (For details of the structure of the high command, see Chapter I, National Defense System. For Red Army personnel and training agencies, see Chapter II, Personnel Administration.)

The following administrative offices are under the jurisdiction of the Chief of the Rear Services:

Main Administration of Army Transportation.

This administration is responsible for the allocation of railroad rolling stock for army movements and for supplies.

Main Administration of Motor Transport.

This administration was organized in January 1943 to increase control over available motor transport. It also took over from the main administrations of armored and motorized troops such duties as the control of schools, supply troops, technical services, and depots.

Main Administration of Roads.

Main Administration of Intendance. This administration is in charge of clothing, some individual equipment, laundries, and workshops.

Main Administration of Rations and Fodder.

Attached to it is the Main Administration of Post Exchange Services, which is subordinate to the Peoples' Commissariat of Trade and which functions independently down to army level.

Main Administration of the Medical Service of the Red Army. This administration functions under the Chief of the Rear Services and also has its own service channels down to regimental level. Key personnel of the medical service also hold positions in the Peoples' Commissariat of Public Health, which has over-all responsibility for all medical matters. The same system applies to the veterinary service.

Administration of the Veterinary Service of the Red Army.

Motor Fuel and Lubricants Administration of the Red Army.

Finance Administration of the Red Army. Attached to it is an office of the State Bank of the Soviet Union, which has its own channels of communication down to regimental level.

Administration for Personnel Losses of Enlisted Men and Relief (pensions) for their Families. It is believed that this administration is

responsible also for graves registration. Losses of commissioned personnel and pensions for their families probably are handled by the Chief of Personnel Administration of the Peoples' Commissariat of Armed Forces. Administration for the Economic Management of the Peoples' Commissariat of Armed Forces.

Administration for the Economic Management of the Peoples' Commissariat of Armed Forces. Publication Office of the Journal, "Rear Services and Supply of the Red Army."

b. Schools of the rear services. The Chief of the Rear Services is responsible for the operation of schools to train officer specialists for the rear services. The Molotov Military Academy trains officers for the rear services and supply organizations of the Red Army. Kaganovich Military Academy trains officers for the transport service.

The Main Administration of the Medical Service of the Red Army and the Administration of the Veterinary Service of the Red Army are responsible for the Pirogov and Kirov military medical academies and the military veterinary academy.

c. Coordination of transportation. The Chief of the Rear Services coordinates transportation problems with the following members of the Peoples' Commissariat of Defense and their organizations responsible for supplying troops with technical equipment, weapons, and ammunition:

The Chief of Chemical Troops.

The Chief of Engineers.

The Chief of Signal Communications.

The Chief of Armored and Motorized Troops.

The Chief of Artillery.

The Chief of the Rear Services also coordinates with the Chief of Railroad Troops, who is directly responsible to the General Staff of the Red Army. The Chief of Railroad Troops commands a limited number of specialized railroad maintenance units and controls all personnel of the Peoples' Commissariat of Transportation operating trains for military supply or movements. It is believed that railroad troop commanders attached to army groups (fronts) function as deputies to the Chief of Railroad Troops.

d. Captured weapons. A Committee for Captured Weapons and its main administration are part of the Peoples' Commissariat of Defense. It is not under the jurisdiction of the Chief of the Rear Services. The Main Administration for Captured Weapons handles recovery, transportation, storage, and reconditioning of captured weapons. It has its own

agencies down to division level and is responsible for the technical analysis of new enemy weapons. In addition, it is charged with the recovery of damaged Soviet weapons and equipment and their transportation to the rear. The Chief of the Main Administration of Army Transportation coordinates transportation requirements with the Committee for Captured Weapons. Captured air force equipment is handled by the air force.

e. Supply depots. Each main administration of the rear services and the main administrations of arms and technical services maintain a number of central depots or supply bases. These central depots or supply bases in the interior of the U. S. S. R. provide general reserves of all classes of supplies. From them come the replacement supplies for troop units and establishments of each military district or army, and the reserve supplies of each district command.

The artillery supply reserves of the Peoples' Commissariat of Armed Forces are stored in central artillery depots. Each category of artillery supplies is stored separately. Ammunition is segregated according to manufacturer, lot number, and year of manufacture. The splitting of an ammunition lot between warehouses is prohibited. Artillery reserve supplies are separated from artillery supplies for current requirements.

A supply depot includes headquarters, warehouses, workshops, and laboratories. Each supply depot is guarded by security and fire-defense (or passive antiaircraft defense) troops supplied by the NKVD.

Supply depots are located in compliance with instructions from the General Staff of the Red Army in accordance with operational and tactical requirements. Generally, they are located within a mile of railroads or highways. Many types of storage installations with widely varying capacities are used.

Each military district has from 15 to 50 supply depots. They include depots for artillery, ammunition, transport, fuel and lubricants, food, engineer supplies, medical supplies, and clothing. Some districts also have depots for chemical supplies, armored equipment, explosives, signal equipment, and other special supplies.

3. REAR SERVICES, ARMY GROUP AND ARMY LEVELS

a. General. The organization of rear services at army group (front) and army levels parallels the organization of the Peoples' Commissariat of Defense. There are administrations (army group level) or divisions (army level) for army transporta-

tion, motor transport, roads, intendants, rations and fodder, medical service, veterinary service, motor fuel and lubricants, finance, and personnel losses of enlisted men.

The army group (front) or army Chief of the Rear Services is the third ranking officer, ranked only by the Commander and the Chief of Staff. He also is a member of the Military Council, which formulates all administrative policies and effects civil-military coordination through attached political personnel, usually the secretary of the regional Communist Party.

Membership in the Military Council of the Chief of the Rear Services fosters cooperation in supply problems with the Chief of Armored Troops and the various technical services.

The Chief of the Rear Services also exercises strong influence on the supply administrations of the technical services, armored arms, and artillery. The supply administrations are located in the second echelon of the army group or the army headquarters, which are under the over-all jurisdiction of the Chief of the Rear Services. The Chief of the Rear Services also controls all transportation of supplies.

An army group (front) Chief of the Rear Services requests air transportation from the army group Commander, who issues orders to the Commander of the subordinate air force, usually an air army.

Supplies are delivered by air to support a tank or mechanized operation when forces outdistance ground communications. Supplies delivered by air usually are limited to ammunition and fuel.

b. Army group and army supply bases, depots, other installations. Large depots for all classes of supplies, except chemical agents, are maintained for army groups (fronts). They are located at suitable railroad stations or at unloading points behind the army group's rear boundary. Unloading points may be brought forward to within 95 to 125 miles from railheads.

Unloading points normally are located in rear of switching or regulating stations from which separate rail lines run to individual armies. Guard and labor units are assigned to army group depots. The individual supply depots and their administrations function under the army group (front) Chief of the Rear Services and the Chiefs of artillery, armored troops, and technical services.

Army supply bases are located near the regulating station in the rear of each army zone. One regulating station is established for each army. Should a

single railroad serve several armies, they use a common regulating station.

The Chief of an army supply base is responsible to the army Chief of the Rear Services. Representatives of the artillery, fuel, and intendants supply sections act as his assistants.

Army field depots are established at railroad stations near the army regulating station. Depots handling inflammable supplies are located 1 to 1½ miles from other depots or station buildings.

Depots usually are provided with special branch lines or sidings. Chiefs of field depots are responsible to the Chief of the Army Supply Base and to the Chiefs of artillery, armored troops, and technical services.

The permanent fixed reserves normally maintained at army field depots are as follows:

Ammunition.....	Up to 1 unit of fire.
Rations and fodder.....	3 to 4 rations.
Fuel and lubricants.....	Up to 2 refills.

Reserves maintained of other supplies are governed by operational requirements.

The Commander of the army also may order the accumulation of the following mobile reserves:

Ammunition.....	Up to ¼ unit of fire.
Rations and fodder.....	Up to 2 rations.
Fuel and lubricants.....	Up to 1 refill.

Personnel of Army Field Depots

(Tank army):

Type of depot:	Adminis- trative Officers	Personnel NCO's & EM
Rations and fodder.....	8	23
Medical	5	7
Automotive repair parts.....	2	2
Weapons and equipment.....	19	26
Fuel and lubricants.....	9	25
Advance fuel.....	9	29
Ammunition.....	41	72
Armor repair parts.....	3	19
Army clothing.....	?	?

(Personnel strength will vary according to the number of divisions in the army.)

Branches of army field depots are located within 1½ to 3 miles of railheads, at connecting points between rail and road nets within the army's rear area. Normally, there is one railhead for each army. Each army includes from 6 to 10 rifle divisions.

Mechanized and cavalry units normally maintain their own supply depots at the railheads of the rifle units with which they are operating. Occasionally separate railheads are organized for individual mobile, mechanized, and cavalry corps.

In fluid situations, unloading stations (temporary railheads) are established instead of railheads. Sup-

plies are shipped to them by rail for immediate delivery to troops. Forward elements of army field depots may be established at unloading stations. Should the distance between the railhead and troops exceed 95 miles, an advance army base is organized on the boundary between army and division rear areas.

Other installations found in army group (front) and army rear areas include collection points and repair shops for weapons and armored and motor vehicles, repair shops for technical equipment, repair and maintenance installations for quartermaster supplies, collection points for captured weapons and equipment, clearing stations, evacuation hospitals, field hospitals, veterinary evacuation hospitals, veterinary field hospitals, prisoner-of-war camps, and other installations necessary to maintain army group (front) and army personnel.

4. REAR SERVICES, RIFLE CORPS LEVEL

The rifle corps has limited control of supplies. Commanders of rifle corps are not assisted by military councils. The independent supply organizations of chemical, engineer, and signal troops end at army level. Supply in lower echelons is the responsibility of technical supply units under the Chiefs of the Rear Services, who are the deputy commanders for supply.

The rifle corps Chief of the Rear Services is assisted by a Chief of Staff of the Rear Services. The Chief of Staff of the Rear Services, in turn, is assisted by a deputy for each of the following activities: organization and planning, subsistence, intendance, fuel supply, requisitioning of motor transport, and technical equipment.

The corps medical officer and the corps veterinary officer are responsible directly to the Chief of the Rear Services.

A rifle corps maintains no supply depots or rear areas, and has only limited personnel to control supply.

5. REAR SERVICES, RIFLE DIVISION LEVEL

The strength of supply organizations at division level exceeds that of corps. Unlike corps, divisions have their own supply dumps.

The rear services at division level include the following groups:

Organization and Planning. The chief of this group is also the first deputy to the division Chief of the Rear Services.

Rations and Fodder. Also is in charge of the bakery.

Intendance. Controls the clothing depot, artisans, and laundries.

Fuel and Lubricants. Controls fuel and lubricants depots.

Motor Transport. Has one motor transport company.

Technical Equipment and Supplies.

Finance. An office of the State Bank is attached.

Division Medical Officer. Controls motor ambulances, medical battalions, collecting stations, divisional medical stations, pharmacy, and a delousing station.

Division Veterinary Officer. Controls a veterinary hospital, pharmacy, and motor vehicles to transport horses.

An artillery supply group functions under the Chief of Artillery. The chief of the artillery supply group controls a weapons, ammunition, and equipment depot, an armory, and a workshop. He depends upon the Chief of the Rear Services for transportation.

a. Division supply dumps and other installations. Division supply points normally are established near the boundary between division and regimental rear areas. Their location is governed by the decision of the division Commander.

The supply point in a division rear area includes an artillery dump, an ordnance workshop, a chemical equipment dump, a fuel dump, ration and fodder dumps, an assembly point for damaged vehicles, a clothing dump with a reserve of underwear and an intendance repair shop, and an assembly point for captured matériel. These dumps function under the chiefs of individual supply agencies controlled by the division Chief of the Rear Services and the Chief of Artillery. They are usually of a temporary nature.

To support an attack, division supply points are placed approximately 6 to 7 miles from the front line. During an operation, they may be left from 12 to 18 miles behind the front line without impeding the flow of supplies. Mobile divisional artillery supply units are moved forward within $2\frac{1}{2}$ or $3\frac{1}{2}$ miles from the battle front. The divisional Chief of Artillery Supply usually remains with this advance unit and has at his disposal two to four trucks to carry ammunition from the main dump to the troops.

The divisional medical station deploys $3\frac{1}{2}$ to 6 miles from the battle front in regimental rear areas. In offensive operations, advance mobile supply units with ammunition and food follow the troops in 6- to

Supply	Total units carried	Distribution			
		With man, horse, gun, and machine	Carried by battalion or battery train	Carried by regimental train	Carried by division transport
Rifle Division:					
Ammunition (units of fire)	1. 5	0.5	0.25	0. 25	0.5.
Fuel (refills)	2. 0	1 5	0.5.
Food (rations)	5	1 (NZ)	1 (in kitchens)	1	2.
Grain feed (rations)	4	1-3 ¹		¹ 2	1.
Bulk feed (rations)	4	1-2-3 ²		2- ³ 1	1.
GHQ Units:					
Ammunition (units of fire)	1. 5	0.5	0.5		In artillery train 0.5.
Fuel (refills)	2	1	0.5 5	
Food (rations)	4	1	1	2	

¹ For mounts, artillery and other draft animals—one ration; for remainder—three rations (after hauling). In the regiment's supply column—two rations for mounts, artillery and other draft animals.

² For mounts, artillery and other draft animals—one ration; for machine-gun-cart teams, medical, signal, and field kitchen animals—two rations; for remainder—three rations (after hauling).

³ For mounts, artillery and other draft animals—two rations. For machine-gun-cart teams, medical, signal, and field kitchen animals—one ration.

Figure 1. Basic supplies carried by a rifle division.

9-mile bounds, having at their disposal about 25 per cent of all divisional motor vehicles. Dumps of the main supply point are moved forward in bounds of 9 to 15 miles.

Security of dumps at the division supply point usually is the responsibility of the motor transport company Commander and is provided by the personnel of the motor transport company and a special labor unit which performs loading and unloading operations at the main and advance supply points. The Chief of Artillery Supply, or an especially designated officer, is responsible for security of advance mobile supply units.

During rapidly developing offensive operations, division supply dumps are not deployed, but front-line troops are supplied by combined army and division transport. In mountain operations, division service areas are usually divided and separate supply points are established for units in isolated areas.

Each division normally is provided with five rations of food and fodder, two refills of fuel, and one and one-half units of fire for all subordinate and attached units (fig. 1).

6. REAR SERVICES, RIFLE REGIMENT LEVEL

The Commander of a rifle regiment is assisted by a deputy for supply, who controls the following supply units:

- Rations and fodder (with ration dumps).
- Intendance.
- Technical equipment and supplies.
- Horse-drawn transport company.
- Finance officer (with State Bank agent).
- Regimental medical officer.
- Regimental veterinary officer.

The Chief of Artillery provides the rifle regiment with arms and ammunition from the artillery dump through the Chief of Artillery Supply. Supply transportation is requisitioned from the regimental Commander's deputy for supply.

Regimental ammunition dumps are located in the regimental rear area, 3 to 6 miles from the front line. Rations and fodder supply units remain near the rear boundary of the regimental rear area.

When a regiment is extended in mountain operations, regimental ammunition dumps usually are not deployed. Ammunition is delivered directly to battalion dumps by division transportation.

When companies become extended, the battalion ammunition supply section is divided among the companies and company ammunition dumps are serviced by regimental transportation.

7. REAR SERVICES OF MOBILE FORMATIONS

Mobile formations have no rear areas of their own. Their supply installations are established within the rear areas of the infantry formations they are supporting.

In addition to normal supply points, mobile corps and brigades are provided with service installations which include assembly points and mobile workshops for damaged vehicles, first aid stations, and a field bakery.

Mobile formations also have special mobile re-supply and evacuation groups. These groups are provided with special supply and evacuation equipment, such as recovery tanks and tractors and armored ammunition and fuel vehicles.

Section II. SUPPLY

1. GENERAL

The marked elasticity of the Russian supply system permits it to meet the rapidly changing requirements of mobile warfare. Although armies and divisions do have motor transport, it is impossible to define a definite constant range of division or army transport activity.

Army and division supply columns may be used separately to transport specific supply items, or they may be combined to expedite the uninterrupted delivery from distant depots to front-line units. The latter is especially true during offensive operations. This system has met transportation requirements satisfactorily despite persistent shortages of transport equipment.

Red Army supply is based on the principle of unit distribution, of "delivery forward," from the main supply administrations of the Chief of the Rear Services down to rifle battalions.

Rifle corps, being primarily tactical units, are not included in the chain of supply. No transportation is assigned to them for supply purposes.

2. REAR AREAS AND INSTALLATIONS

Headquarters, personnel, and supply installations servicing a unit are located in the rear area of that unit. The rear area of a regiment extends from 5 to 7 miles in depth; a division rear area from 18 to 22 miles. Combined regimental and division rear areas extend approximately 22 to 28 miles in depth. Army rear areas extend in depth from 95 to 125 miles, and the rear areas of army groups (fronts) extend from 185 to 250 miles in depth (fig. 2).

Armored, mechanized, and cavalry units establish their supply lines and installations within the rear areas of infantry formations (fig. 3).

Service organizations of rifle units and formations usually are established in rear of the combat line as follows (see fig. 4):

Organization:	Distance from combat line (miles)
Regimental ammunition dumps and artillery workshops.	3 to 6.
Regimental artillery supply dumps-----	3 to 6.
Regimental medical stations-----	1.5 to 3.
Regimental train, second echelon (including rations and fodder supply unit, transportation company equipment, veterinary aid station, and intendants workshop).	5 to 7.5.

Organization—Continued.

Division supply point-----	6 to 9.5.
Division medical station-----	3.5 to 6.
Field bakery and division veterinary hospital.	One day's march.
Division artillery supply installations.	In regimental rear area near boundary of division rear area.

There are two echelons of regimental and division services. The first echelon of regimental services includes ammunition supply and medical installations. The second echelon includes transport for rations, fodder, fuel, and other supplies, a veterinary aid station, and a quartermaster workshop.

The first echelon of division services is the division supply point (fig. 5). The second echelon includes a field bakery and a veterinary hospital. Usually, the division medical station is located in a regimental rear area along the axis of advance.

This pattern for the organization of rear areas may vary according to the dictates of operational requirements, terrain, weather conditions, and available transportation.

Rear area services of mobile units follow the above pattern down to brigade level. Brigade rear services also are divided into two echelons, but there are no organized rear areas for units or battle groups. Supplies from the brigade supply point are delivered directly to front-line units by armored supply vehicles.

Advance observation and communication posts for mobile formations are established from 1,000 to 1,500 yards in rear of the combat units. Special combat, supply, and evacuation groups are established from 500 to 800 yards in rear of the advance observation posts.

The advance echelons of the rear services, with collection points for damaged combat vehicles, are established from 2 to 2½ miles in rear of the re-supply and evacuation groups (fig. 3).

3. SUPPLY CHANNELS TO BATTLE FRONT

a. Factories to army group. The main administrations of individual classes of supplies, the Chief of Artillery, the Chief of Armored Troops, and the chiefs of the technical services in the Peoples' Commissariat of Armed Forces estimate their supply requirements as determined by demands sent through channels by lower echelons. Requirements must be approved by the Commissar of Defense.

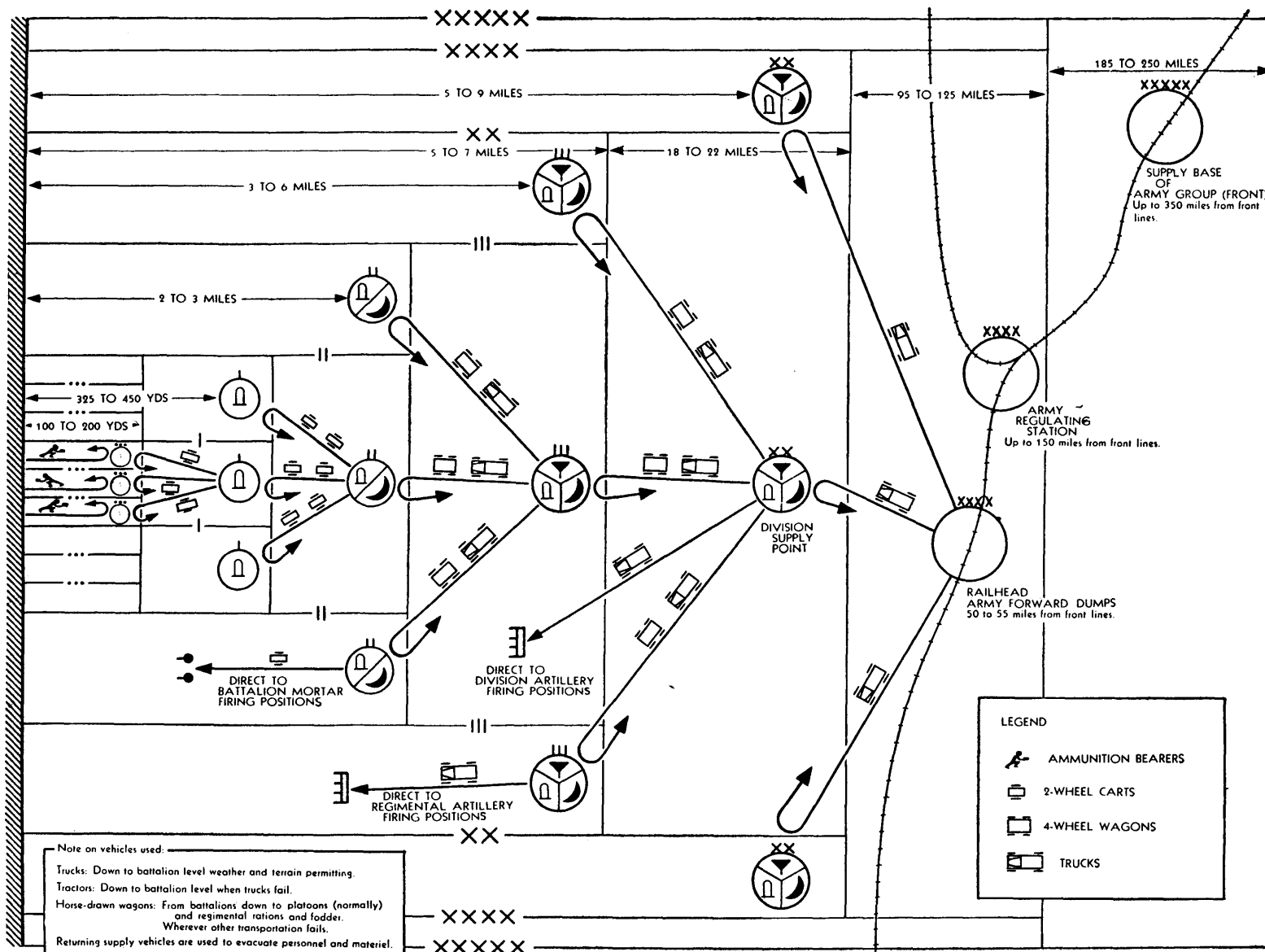


Figure 2. Organization of rear services and supply channels of Red Army regiments, divisions, armies, and army groups (fronts).

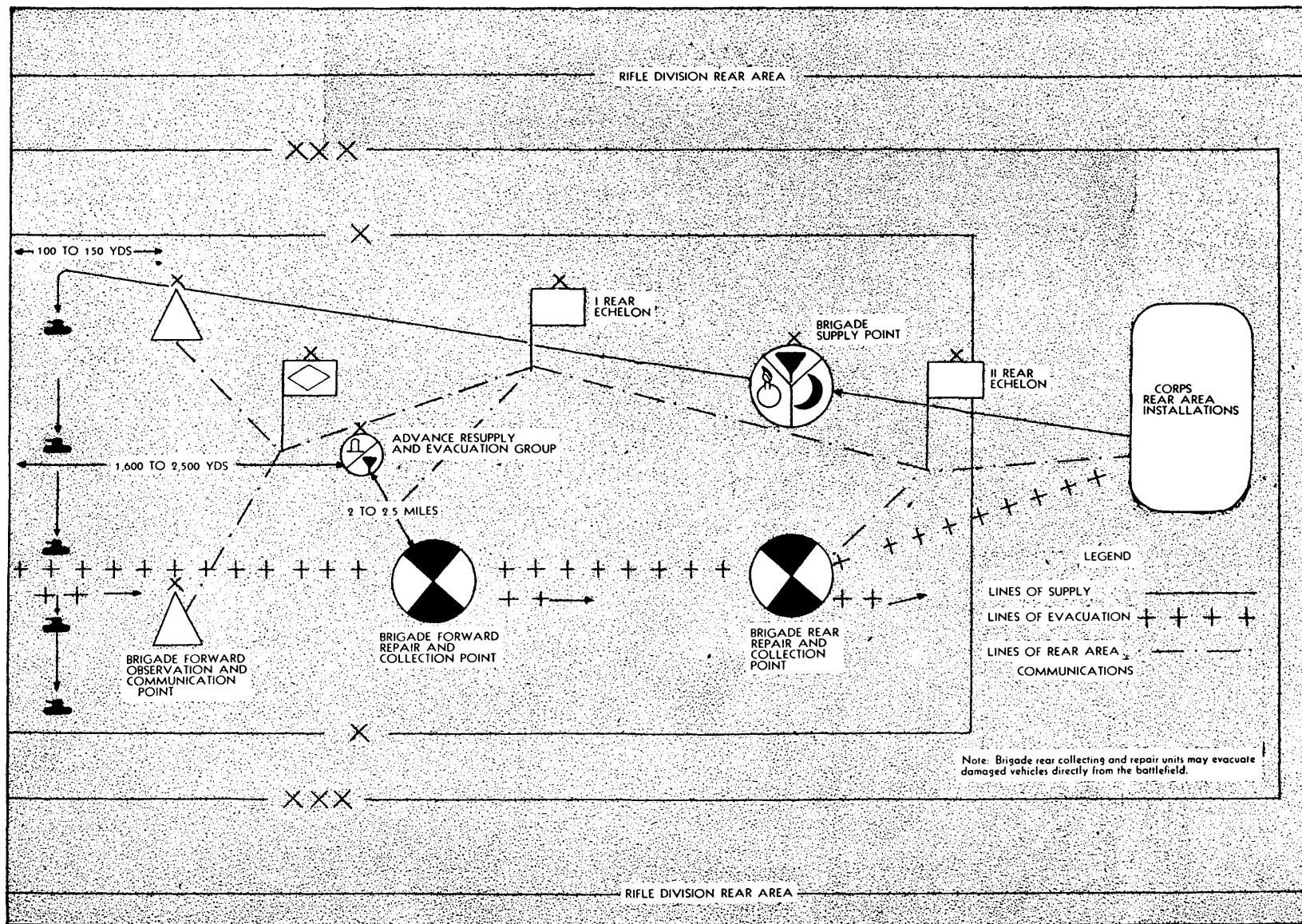


Figure 3. Channels of supply and evacuation for armored and mechanized units.

Installations	Distance from the front (miles)		Time (minutes)		Personnel
	On the offensive	On the defensive	Deployment	Reassembly	
Company ammunition dump.	0.3 -----	0.3 -----	5 -----	3 -----	Ammunition section of supply platoon of rifle battalion.
Battalion ammunition dump.	1 to 2 -----	Up to 3 -----	15 -----	5 -----	
Battalion quartermaster dump.	2 to 3 -----	Up to 3 -----	10 to 20 -----	5 -----	Quartermaster section of supply platoon of rifle battalion.
Battalion medical station.	0.3 to 0.6 -----	1.5 -----	15 -----	5 -----	Battalion medical unit.
Regimental ammunition dump. ¹	3 to 3.5 -----	5 to 6 -----	45 -----	20 -----	First platoon of regimental transport company.
Regimental medical aid station.	1 to 3 -----	2.5 to 3 -----	45 -----	20 -----	Regimental medical unit.
Regimental veterinary hospital.	5 to 7.5 -----	5 to 7.5 -----	45 -----	20 -----	Regimental veterinary hospital.
Advance veterinary station.	1.8 to 4.3 -----	1.8 to 4.3 -----	15 -----	10 -----	
Second echelon of a regimental supply column. ²	4.9 to 7.5 -----	4.9 to 7.5 -----	30 -----	60 -----	Second platoon of regimental transportation company.
Division supply point ³	5 to 6 -----	7.5 to 9 -----	2.5 to 3 hrs -----	-----	Division transport company.
Divisional veterinary hospital.	12 to 15.5 -----	12 to 15.5 -----	1 hr. 15 min. -----	40 -----	
Divisional field bakery. ⁴	8.3 to 12 -----	Up to 18 -----	In summer 10 hrs. 5 hrs. ⁵ ----- In winter 24 hrs. 3 hrs. ⁵ -----	-----	

¹ The ammunition supply platoon of the regimental artillery and the ordnance workshop of the rifle regiment operates at the regimental ammunition dump.

² Includes quartermaster workshop.

³ Includes ammunition dump, rations, fuel dump, collection point for damaged vehicles, and workshops.

⁴ Bread ready for delivery 6 hours after deployment.

⁵ Includes cooling of oven. Reassembly of bakery proper requires 1½ hours.

Figure 4. Time required for the deployment and reassembly of rear area installations.

Production orders then are issued to industrial commissariats, which distribute the orders to factories. Agents of individual supply administrations of the Peoples' Commissariat of Armed Forces at the various factories receive and check the supplies. They then direct them either to central depots of the Peoples' Commissariat of Armed Forces or to supply depots of military districts and supply bases of the army groups (fronts).

b. Army group to army bases and field depots. Supplies are shipped from army group (front) to army supply bases and field depots by rail. Chiefs of army transportation of the army groups are responsible that supplies are forwarded from the army group base to the army regulating station.

Regulating stations are important links in the supply chain. Supplies arriving from rear bases are distributed and forwarded toward the combat front from the regulating station. Wounded men and captured and damaged equipment are evacuated through them to the rear.

Only large railroad stations or groups of railroad stations are used as regulating stations. The commandants of these stations function under the army

group Chief of Transportation, but also are responsible to the chief of the army base.

Part of the motor transport pool of the army group is held near the regulating station for emergency use. Station commandants share with railroad personnel responsibility for timely dispatching of trains and avoidance of delays. Commandants also are responsible for antiaircraft security and unloading by special labor units detailed for handling cargoes.

Regulating stations are linked with railroad sections of the army rear area, which are under the control of the army Chief of Transportation. Security of railroad sections in the army rear area is the responsibility of the railroad commandants appointed by the army Chief of Transportation.

A number of railheads are established in the rear area of an army. They are located near the boundaries of division rear areas. An air force railhead is established near the boundary of the army group (front) rear area. Army group and army Chiefs of Army Transportation are responsible for the shipment to air force railheads of supplies sent to regulating stations by order of the Chief of Air Force Supplies.

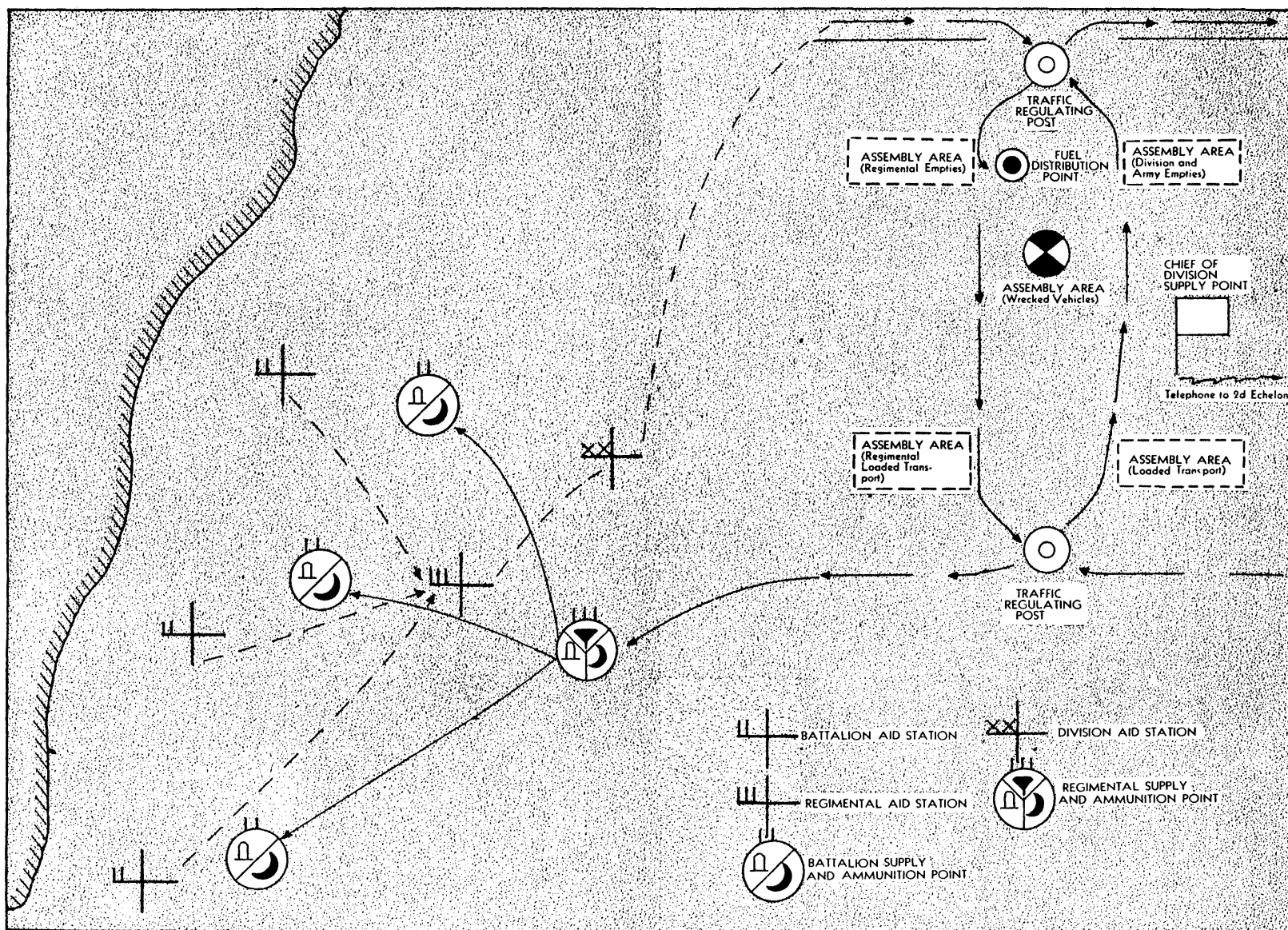


Figure 5. Organization of division supply point.

Should the railroad section's capacity prove insufficient, army group (front) or army chiefs of army transportation may order the shipment of supplies by truck.

Army supply bases and field depots located near regulating stations are provided with railroad sidings. A regulating station and an army supply base cover approximately 4 square miles. They contain individual supply depots, large repair shops, field and veterinary hospitals, and collecting points for damaged motor vehicles.

The regulating station is controlled by the chief of the army base, who functions under the army Chief of the Rear Services and who is responsible for the organization and security of loading and unloading operations. He provides assembly areas for waiting columns, determines routes of departure and arrival, and schedules loading and unloading operations.

c. Army supply base to front line. Motor transport battalions and companies move supplies forward from army supply bases.

Supply and evacuation roads to division supply points are constructed as necessary. These roads are divided into sections, each in charge of a military commandant. Road sections between army supply bases and division supply points are from 15 to 30 miles long. Should the distance between front-line units and the railhead exceed 95 miles, army truckheads are established on the boundary between army and division rear areas.

Should a railroad be rebuilt in a forward section during an advance, individual divisions are supplied by shuttle trains. Trucks are then used to move the supplies forward from these stations. Army as well as division trucks may be used.

Daily shipments of ammunition, food, and fodder are presumably forwarded to division supply points by army transport columns. These items constitute approximately 70 percent of the daily supply requirements. Division transport then carries ammunition to regimental ammunition dumps or directly to firing positions. Special artillery transport columns forward ammunition for artillery and technical units.

Normally, division transport carries food, fodder, and fuel to regimental second echelon supply points. However, horse-drawn columns of rifle regiments sometimes draw these items at the division supply points.

Fuel for divisions is supplied by armies. However, all motorized units have small tank-truck columns which draw their fuel at army depots.

All other supplies such as clothing, equipment for technical services, post exchange goods, and medical supplies are not furnished to division supply dumps. They are drawn at army depots by division and tank or mechanized corps transport columns.

This system reduces the volume of supplies handled by small units and, at the same time, limits the demand for army transport by restricting requirements to essential needs.

Attached artillery units use their own transport to draw all supplies from special depots located near division supply points. These supply points are serviced in the same manner as division supply points.

When the requirements of individual units during major operations cannot be satisfied by their own transport, combined division and army transport together with that of lower units transport ammunition directly from army supply bases to firing positions and other supplies directly to regimental supply points.

Tank and mechanized corps are equipped with transport columns capable of operating over distances up to 60 miles.

Supply of mobile units in break-through operations usually is effected by bulk employment of the army group motor transport reserve. Truckheads are established along the axis of advance in addition to the supply points provided for tank and mechanized corps. The distance between brigade supply points and the most advanced truckheads does not exceed 20 miles. The distance between truckheads does not exceed the length of a daily round trip for supply vehicles—from 40 to 50 miles. Truckheads maintain dumps for all classes of supplies.

Mobile supply reserves at corps command posts service mobile units which outdistance their supply lines or are cut off from them. These supply reserves contain only the most essential battle supplies, principally ammunition and fuel. They are handled by a forward supply staff detailed by the Chief of the Rear Services.

During mountain operations, division and attached army transport is used in the divisional rear area. Regimental transport may be reinforced by pack animals and porter commands of local civilians or enlisted men.

In mountainous terrain, the Red Army strives to guarantee that all sections of the supply chain are of equal capability in order to avoid bottlenecks in the movement of supplies. When sections of the supply chain become over-extended, it recommends the establishment of long round trips to avoid re-loading operations.

4. ARTILLERY SUPPLY

In addition to meeting artillery requirements, the Administration of Artillery Supply provides weapons and ammunition for all units of the Red Army. The Administration is also charged with weapons repair and storage of ammunition. There is a Chief of Artillery Supply for each echelon down to and including the rifle regiment.

Estimated requirements of weapons and ammunition are based on General Staff plans for future operations. Preparations are then made to enable army group (front) and army rear services to supply divisions and forward units with the required supplies.

The Administration was relieved of the responsibility for battlefield recovery of weapons in April 1944. This responsibility was transferred to a special captured weapons and recovery service. The Administration of Artillery Supply is, however, responsible for the recovery and evacuation of cartridge cases.

The Chief of Artillery Supply at rifle regiment level is assisted by one clerk, two armorer, and one to two men in the artillery supply dump.

The Chief of Artillery Supply at rifle division level has one assistant, one clerk, and several men in supply dumps and workshops. His responsibilities include supply of ammunition to division units, replacement of weapons and associated equipment, storage and distribution of artillery supplies, coordination of ammunition transportation with the motor transport company, maintenance of daily records of ammunition expenditure and reserves, and evacuation of cartridge cases and weapons requiring repair.

When a major operation is projected, the Chief of Artillery Supply at division level, the Chief of Artillery, and the Chief of Staff prepare an estimate of weapons and ammunition requirements, prepare an ammunition supply plan, and issue an artillery supply order.

Rifle corps have a control agency headed by a Chief of Artillery Supply. He is assisted by a clerk, and receives copies of reports and requisitions sub-

mitted to the army supply division by divisional chiefs of artillery supply.

At army level, there is a division for artillery supply under the Chief of Artillery. The office of the Chief of Artillery Supply includes an inspection team of two artillery majors who inspect supply depots in subordinate echelons. The Chief of Artillery also controls an artillery supply depot and a repair shop. His responsibilities parallel those of the Chief of Artillery Supply at division level.

The artillery supply division at army level includes five groups:

Group One (Transportation) receives supplies, supervises storage, and issues ammunition. Transport is assigned to the transportation group by the army Chief of the Rear Services (motor transport division).

Group Two (Ammunition) receives daily reports from divisions on ammunition reserves. These reports are indorsed by the Chief of Artillery Supply, who indicates the amounts required for each division. The ammunition group provides division supply officers with a receiving certificate, which is submitted to the transportation group. The transportation group, in cooperation with the motor transport division of the Chief of the Rear Services, assigns the necessary transport. The depot then issues the required ammunition on the basis of the receiving certificate.

Group Three (Weapons and Equipment) functions similarly to the ammunition group.

Group Four (Repair) is charged with weapons repair.

Group Five (Prime mover) maintains, stores, and delivers prime movers.

When no special operations are projected, artillery ammunition depots maintain a supply of two to three units of fire (fig. 6). A day's consumption averages from .5 to .6 units of fire.

The Administration of Artillery Supply at army group (front) level follows the same basic pattern. The transportation group of the Administration depends upon the army group Chief of Army Transportation for rail transportation.

The prime mover group at army group (front) level is believed to be controlled by the Red Army Supply Administration of Tanks and Mechanized Troops instead of the Administration of Artillery Supply. This is the highest organization for the distribution of combat vehicles.

Weapon	Unit of fire		Rounds carried by—				
	Rounds per weapon	Weight (short tons)	Emergency reserve with weapons*	Btry, Co	Bn	Regt, Brig	Div, Tk, Mecz, Cav, Corps
7.62-mm R.	100	0.038	10	70	15	15	50
7.62-mm SAR	120	.046	—	90	15	15	60
7.62-mm SMG	300	.044	30	210	45	45	150
7.62-mm LMG	800	.27	98	98	490	212	400
7.62-mm HvMG	2,500	1	500	1,500	500	500	1,250
7.62-mm Tk MG	3,000	1	120	1,500	—	—	4,500
12.7-mm AAMG	2,000	.37	170	1,000	—	1,000	1,000
14.5-mm ATR	120	.16	10	50	35	35	60
50-mm Mort.	120	.19	10	56	28	36	60
82-mm Mort.	120	.51	10	40	40	40	60
120-mm Mort.	80	2.2	5	20	30	30	48
160-mm Mort.	—	—	—	—	—	—	—
37-mm AA G	200	—	15	—	115	85	100
45-mm AT G	200	.7	50	50	100	50	100
57-mm AT G	200	.69	25	50	100	50	100
76-mm How	140	.79	16	16	56	68	70
76-mm G	140	1.79	16	24	88	28	70
85-mm AA G	150	3.39	15	—	90	60	75
85-mm G (Tk)	48	1.1	6	48	—	—	48
100-mm G	—	—	—	—	—	—	—
122-mm How	80	2.99	8	—	36	36	40
122-mm G	80	3.66	6	—	40	40	40
152-mm How	60	6.33	4	—	30	30	30
152-mm G/How	60	3.95	4	—	34	26	30
152-mm G	40	3.56	4	—	22	18	20
203-mm How	40	5.85	2	—	22	18	20

*Included in total.

Figure 6. Units of fire for principal weapons and distribution of ammunition

Weapons and ammunition depots of the Peoples' Commissariat of Armed Forces are controlled by the Red Army Administration of Artillery Supply (fig. 7).

a. Army artillery supply during offense. The army Chief of Artillery Supply supervises the expenditure of ammunition and is responsible for the distribution of supplies available to him. He requisitions ammunition for projected operations on the basis of instructions and estimates received from the Army Chief of Artillery. In his requisition, he designates the units of fire and number of rounds required for each type of weapon, the permanent reserve which must be maintained at the end of the operation, amounts required to bring present stocks up to estimated requirements, and the schedule for delivery from army group (front) to army supply installations.

When his requisitions are changed at army group headquarters, the army Chief of Artillery revises his plan in accordance with the available ammunition supply.

The supply plan of the army Chief of Artillery Supply includes:

Ammunition requirements of individual units at beginning of operation.

Rate of ammunition expenditure for various phases of the operation.

Priority of units for ammunition supply.

The army Chief of Artillery Supply organizes the work of artillery supply agencies, issues instructions for the checking of weapons, prepares the necessary repair and evacuation facilities, and coordinates ammunition and damaged weapons evacuation transportation with the army Chief of Transportation.

Although the Chief of Artillery Supply is responsible for the delivery of ammunition to the troops, the agencies of the Chief of the Rear Services are responsible for furnishing the necessary transport.

The Chief of Artillery Supply is always informed of the situation at the battle front, the location of division supply points, and the expenditure and reserves of ammunition in the army. Ammunition expenditure is rigidly limited to the daily average planned for the operation.

The Soviets have prepared estimates of the ammunition requirements of an army at the beginning of an offensive operation (fig. 8). This estimate is considered sufficient to neutralize the entire tactical depth of the enemy's first defensive zone. To neutralize the second defensive zone, or to provide for a delay in the operation, it is estimated that ammunition expenditures will be increased 1 to 1½ times.

Ammunition issued to troops normally includes ammunition for the artillery preparation, ammunition for the following day, and the reserve carried by units (fig. 9). The remainder of the ammunition required for the operation is concentrated at the army supply base. The Soviets believe that the accumulation of large ammunition reserves at firing positions stimulates unnecessary expenditure.

Red Army doctrine emphasizes the necessity for close coordination of transportation and ammunition supply. The responsibility of the rear services normally is limited to the assigning of transport and general dispositions. The actual shipment of ammunition is handled by the artillery supply service. Ammunition supply normally requires up to 80 percent of an army's motor transport.

The Chief of Artillery Supply requisitions motor transport for ammunition delivery on specified days. He designates loading and delivery points and controls transportation through control officers stationed at designated control points.

The rear services are responsible for the timely arrival of transport at the loading points, supervise loading and unloading, prepare a march graph, and

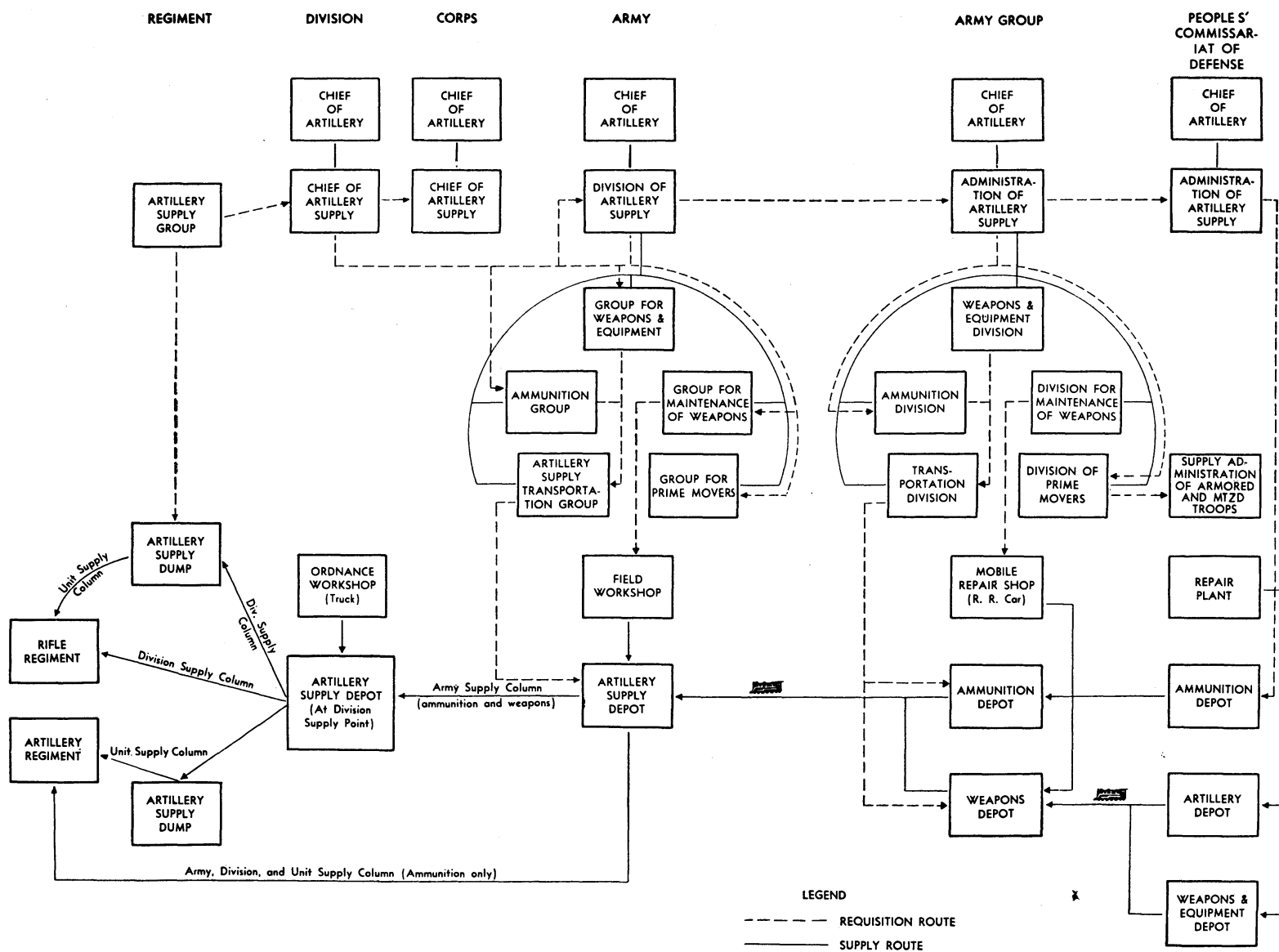


Figure 7. Channels of requisition and supply of artillery arm of the Red Army.

Type of ammunition	Units of fire		
	Operational requirements	Permanent reserve	Total
82-mm mortar.....	2.0	0.5	2.5 to 3.0
120-mm mortar.....	3.5	1.0	4.5 to 5.0
76-mm regimental and division artillery.....	3.0	1.0	4.0 to 4.5
122-mm howitzer and higher calibers.....	4.0	1.0	5.0 to 5.5
Rifle.....	.75	.75	1.5 to 1.75
Pistol.....	1.0	.75	1.75 to 2.00

Figure 8. Ammunition required by an army at the beginning of an offensive operation

provide for repair facilities, refueling facilities, and timely return of vehicles.

When necessary, ammunition is delivered by army transport direct to division supply points or to the firing positions. These shipments are accompanied by guides from the combat units.

During offensive operations, the Chief of Artillery Supply usually remains at the first echelon command post. He is accompanied by the transportation and ammunition groups of his staff. The weapons, maintenance, and prime mover groups of his staff remain with the second echelon.

5. FUEL AND LUBRICANTS SUPPLY

Because day-to-day fuel and lubricants requirements of air forces and tank and mechanized units fluctuate markedly, the principle of unit distribution of fuel

Type of ammunition	Units of fire		
	At firing position	At division supply point	In advance ammunition dump
82-mm mortar.....	1.0	0.5	0.5
120-mm mortar.....	1.5	.75	.5
76-mm regimental and division artillery.....	1.5 to 1.75	.5	.5
122-mm howitzer and gun.....	2.0	.75	.75
152-mm howitzer and gun.....	2.0	.75	.75

Figure 9. Distribution of ammunition at the beginning of an offensive operation.

and lubricants is limited to rifle divisions (figs. 10 and 11).

Fuel and lubricants are delivered to division dumps by army supply agencies. Armored, mechanized, and motorized units are provided with their own fuel and lubricants vehicles, which draw from army fuel depots.

There is a shortage of railroad tank cars in the U. S. S. R. Railroad fuel bases seldom are used. Normally, fuel delivered to army supply bases is stored in barrels or in large, transportable containers.

6. RATIONS AND FODDER SUPPLY

The utilization of local resources to supply rations and fodder is widely practiced by the Red Army. Supply bases of the Peoples' Commissariat of Armed Forces provide army group (front) supply bases

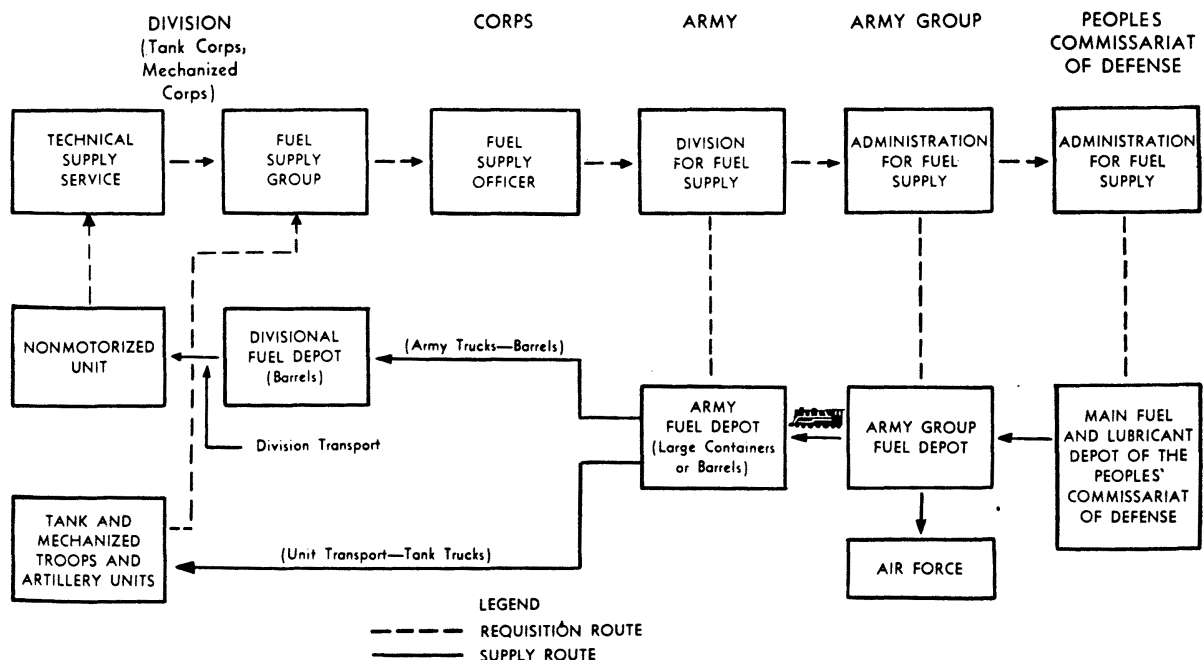


Figure 10. Channels of requisition and supply of fuel and lubricants in the Red Army.

Vehicle	Tank capacity		Fuel consumption (gallons per 100 miles)
	Gallons	Pounds	
Motorcycle with side-car	5.2	33	3.6
Motorcycle without side-car	3.7	24	3.2
Automobile pick-up	15.8	99	6.4
Automobile GAZ-A	10.5	66	5.4
Automobile GAZ-2A	11.6	72	9.4
Automobile GAZ-3A	11.6	72	12.9
Automobile ZiS-5	15.8	99	15.1
Automobile M-1	15.8	99	6.4
Automobile ZiS-101	22.4	141	11.6
Tractor STZ-5	47.5	329	7.6
Tractor CHTZ-65	74.2	580	7.6
Tractor Voroshilovets	145.2	965	14.1

NOTE.—Fuel consumption is based on movement over average dirt roads during dry summer weather. Consumption will be increased 1.2 times in mountainous terrain, 1.3 times in winter operations, and 1.4 times in operations over sandy terrain. Consumption of lubricants equals one-tenth the consumption of fuel.

Figure 11. Fuel capacity and consumption of Red Army motor vehicles.

only with unperishable staple commodities such as flour, canned foods, millet, sugar, etc.

Meat, vegetables, butter, and hay are obtained locally by the agricultural products procurement group of the army rations and fodder division. These supplies are sent to divisional food supply dumps.

Product	Allowance	
	Pounds	Ounces
Bread:		
October–March	1	15.5
April–September	1	12
Wheat flour of second grade		.7
Grits		4.9
Macaroni, vermicelli		1.05
Meat		5.25
Fish		3.5
Deodorized soy flour		.52
Fats		1.05
Vegetable oil		.7
Sugar		1.22
Tea		.035
Salt		1.05
Vegetables (regimental and division trains carry 5.74 ounces of grits instead of vegetables)	1	12.7
Tomato paste		.21
Bay leaf, pepper, vinegar, mustard powder		.098
Tobacco		.7
Totals:		
Winter:		
With vegetables	5	1.2
Without vegetables	3	10.24
Summer:		
With vegetables	4	13.7
Without vegetables	3	6.74
Additional monthly rations:		
Soap for toilet needs		7.0
Matches (boxes)		.105
Cigarette paper (booklets)		.245

Figure 12. Break-down of individual ration.

Product	Quantity
Biscuits	Ounces 17.5
Concentrates for the first course ¹	2.62
Concentrates for the second course	7.0
Smoked sausage ²	3.5
Sugar	1.2
Tea	.07
Salt	.35
Total	32.24

¹ Instead of the two concentrates, 5.25 ounces biscuit and 2.80 ounces lard may be issued.

² Instead of smoke sausage, one of the following may be issued: 2.45 ounces hard smoke sausage, 2.45 ounces bacon, 2.45 ounces lard, or 5.25 ounces fish.

Figure 13. Break-down of individual emergency ration.

To economize transportation, grain is obtained from local collective farms whenever possible. Part of such grain is ground by hastily constructed division field mills and the flour furnished to division bakeries. Special military slaughter services are not organized in the field, but cattle procured locally are brought direct to regimental kitchens.

When a front becomes stabilized, the group for agriculture of the army ration and fodder division engages in farming activities and sends its products to the divisions.

Several types of rations are issued in the Red Army (figs. 12, 13, 14, and 15). Channels are prescribed for requisitions and routing of rations and fodder (fig. 16).

Post exchange services cooperate with the rations and fodder services, but are subordinate to the Peoples' Commissariat of Trade. Items stocked by the most important field exchanges include tooth paste, pocket mirrors, needles and thread, paper, and pencils. They also have tearooms and barber shops. Field exchanges are organized in the rear areas down to division level.

7. WATER SUPPLY

The organization of water supply in the field is based on plans carefully prepared by engineer units

Type of horse	Oats		Hay		Salt (ounces)	Total	
	Pounds	Ounces	Pounds	Ounces		Pounds	Ounces
Cavalry	8	12	10	15	0.5	19	11.5
Artillery	13	2	12	11	.5	25	13.5
Supply	7	10.5	13	2	.5	20	13

Figure 14. Break-down of individual fodder ration.

Requirements	Normal (gallons)	Reduced (gallons)	Mini- mum (gallons)
Individual:			
Drinking.....	0.9	0.7	
Cooking.....	1.0	.4	
Dish washing.....	.5	.1	
Washing face and hands.....	1.4	.1	
Laundry and shower.....	2.5		
Total.....	6.3	1.3	
Animal:			
Horse.....	12.3	7.4	5.0
Mule.....	5.4	3.4	2.5
Camel.....	14.8	7.4	5.0
Large livestock.....	12.3	7.4	3.7
Small livestock.....	2.5	1.3	.738
Dog.....	.7	.5	.5
Mechanical (one refill):			
Machine gun.....	.6		
Radiator:			
Automobile GAZ.....	3.0		
Automobile ZiS-5.....	6.4		
Tractor.....	11 to 17		
Tank.....	22		

Figure 15. Daily water requirements.

in cooperation with the medical service prior to offensive operations. A water supply plan includes the survey, a water supply chart, and a work schedule.

The survey establishes the location of existing water resources in the proposed zone of operations. The water supply chart organizes the basic decision for the utilization of existing wells, construction of new wells, deployment of water supply stations, etc.

The work schedule designates water points and other installations, specifies troop units assigned to water points, shows daily water requirements in cubic meters, daily capacities of water points, required work, available labor, available transport, necessary materials and equipment, schedule of operation, and a schedule of available water for various phases of the operation.

Special hydro-technical companies or combat engineers organize water supply points in the rear of army groups and armies. Water supply points for all other units, formations, and rear area establishments are organized by engineer units or by the troops themselves in accordance with plans prepared by the responsible Commander.

Daily water requirements are carefully computed (fig. 15).

The following table contains data on army water points:

	Regimental water point	Division water point	Army water point
Capacity per 24 hours (cubic feet).....	140 to 280	210 to 700	350 to 3,500
Time required for deployment (hours).....	1 to 4	4 to 12	6 to 72
Labor (men).....	4 to 10	10 to 30	10 to 60
Number of water points in army zone.....	125 to 35	7 to 10	4 to 8

¹ Bn points not included.

8. MOTOR AND ARMORED VEHICLE SUPPLY

Distribution and replacement of motor transport and armored vehicles in the Peoples' Commissariat of Armed Forces is the responsibility of the Main Administration of Motor Transport and the Main Administration of Armored Equipment. The armored equipment administration also handles prime movers and personnel carriers (fig. 17).

Transport and combat vehicles are handled at army group (front) and army levels by the Motor Transport Service, the Armored Equipment Service, and the Artillery Supply Service. The Motor Transport Service handles transport vehicles through the Administration of Motor Transport at army group (front) level and through the Motor Transport Division at army level. The Armored Equipment Supply Service handles combat vehicles and personnel carriers through the Supply Administration for armored troops at army group (front) level and through the Supply Division for armored troops at army level. The Artillery Supply Service handles artillery prime movers through the Prime Mover Division of the Administration of Artillery Supply at army group (front) level and the Artillery Supply Section at army level.

Tanks are delivered to their crews at the factories. They are shipped by rail to the army railhead, from which the crews drive the tanks to troop units. Few tank depots are known to exist in the U. S. S. R. There are no tank depots in army group (front) or army rear areas. Army group vehicle pools contain only supply vehicles and automotive equipment and tractors for armored and artillery supply units.

9. CLOTHING SUPPLY

Clothing and personal equipment are supplied to troops by the Intendance Service and its agencies in each echelon (fig. 18). The Red Army soldier receives a much smaller clothing and personal equipment issue than does the U. S. soldier (fig. 19).

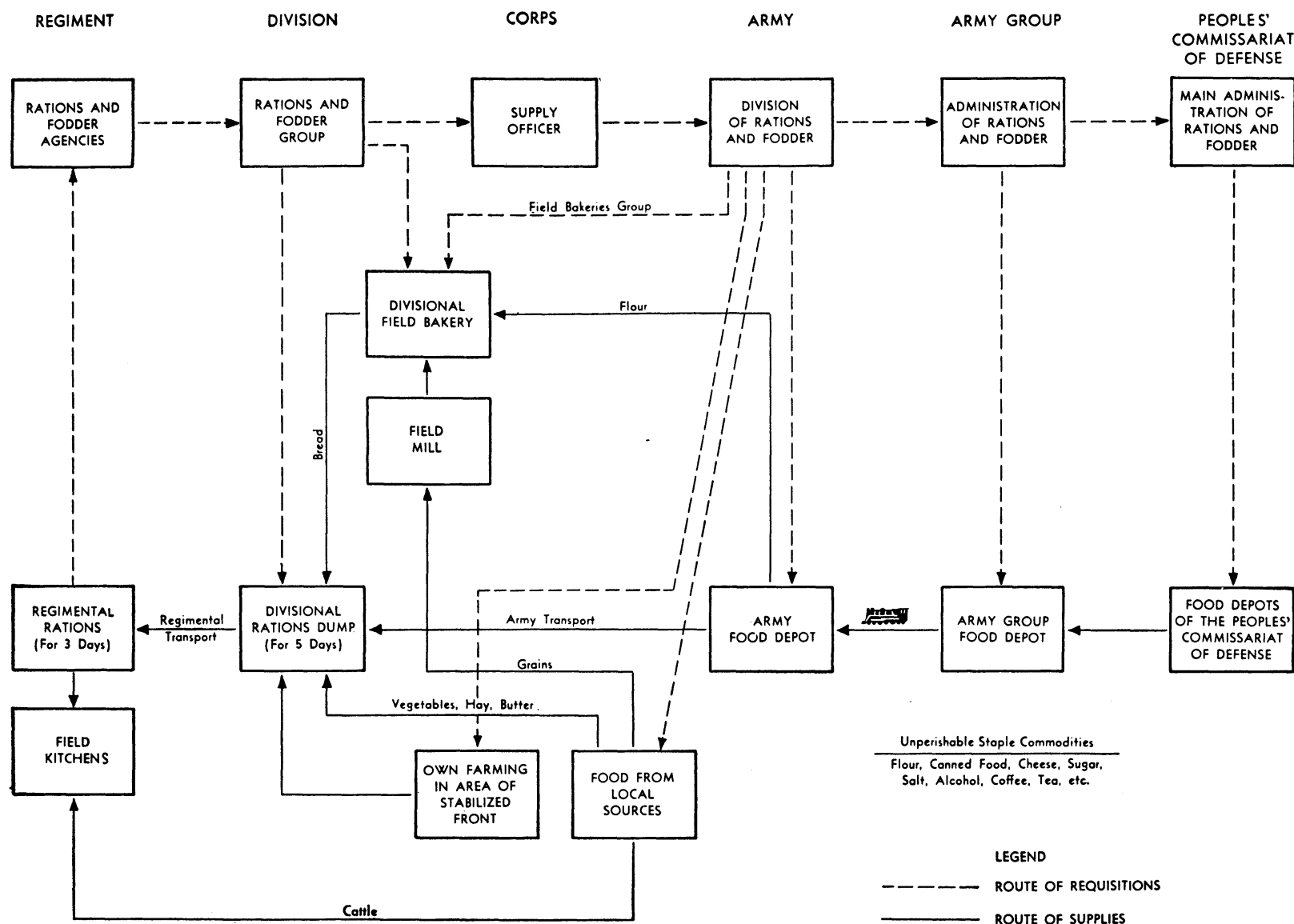


Figure 16. Channels of requisition and supply of rations and fodder in the Red Army.

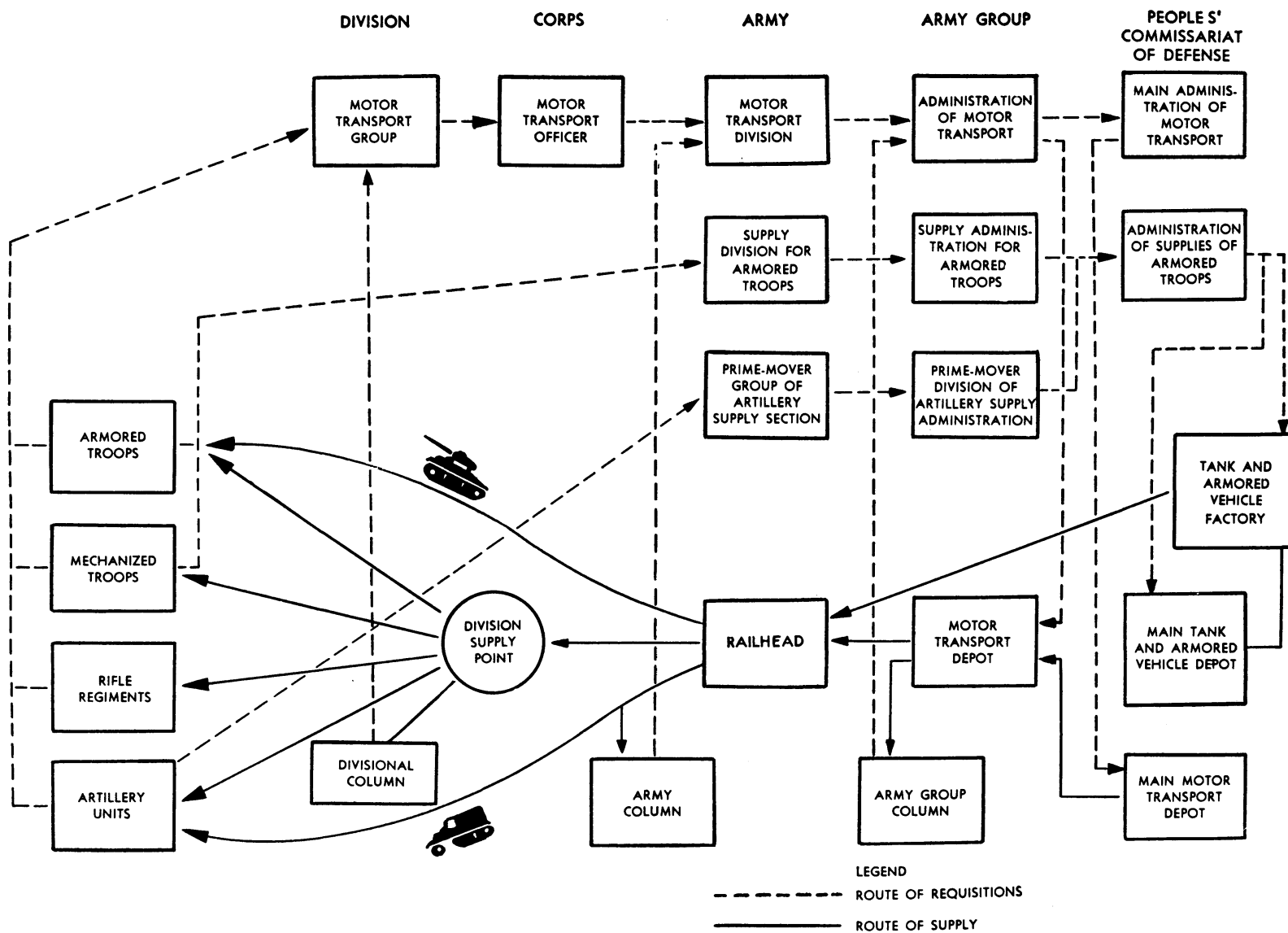


Figure 17. Channels of requisition and supply of motor transport and tanks in the Red Army.

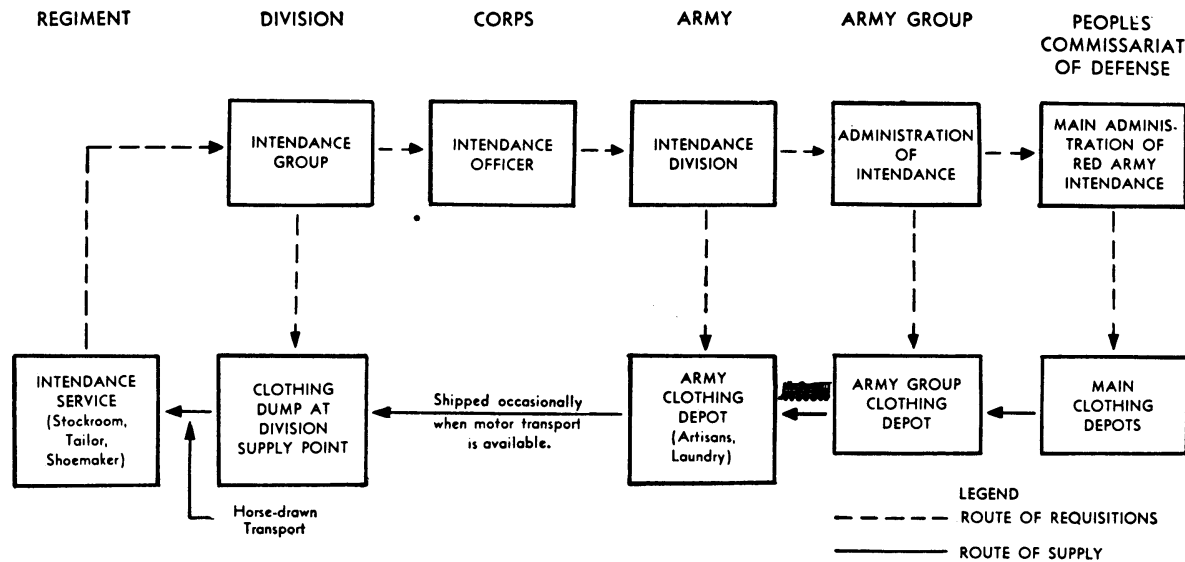


Figure 18. Channels of requisition and supply of clothing in the Red Army.

Section III. TRANSPORTATION

1. RAIL TRANSPORTATION

Red Army doctrine emphasizes the importance of delivery of supplies by railroad as close to front-

line troops as possible. Movement of troops and supplies are carried out by agencies of the Peoples' Commissariat of Transportation (see Chapter IV). All railroads are militarized in time of war. Employees are uniformed and placed under military law, but technical operation by the Peoples' Commissariat of Transportation is continued.

The Red Army has no troop units to operate trains, except in combat areas where railroads are under construction. Rolling stock is kept at the disposal of the Main Administration of Army Transportation and its subordinate organizations. Transportation is conducted by civilian railroad officials in accordance with the plans of the Chief of the Rear Services.

Military commandants are placed in charge of sections of railroad lines and important stations. In military districts, the rear areas of army groups (fronts), and armies, railhead commandant supervise the loading, unloading, and timely dispatch of trains. They are responsible to military district, army group, and army Chiefs of Army Transportation.

Rail transportation of supplies ends normally in the rear areas of armies. Here, army railroad sections are established to ensure an uninterrupted flow of supplies to troops. Army railroad sections operate from regulating stations in rear of army group (front) and army zones to the most advanced railhead or unloading station.

Regulating stations are established at important rail junctions near the rear boundaries of armies. Two or three stations are combined into a regulating station where there is no rail junction. Supply and

Item ¹	Estimated serviceability ²	Quantity issued	
		First year	Second year
Cap, winter, pile	2 yrs.	1	
Cap, service, cotton, wool trimmed	2 yrs.	1	
Cap, garrison type	2 yrs.	1	
Overcoat, woolen	2 yrs.	1	
Jacket, cotton, padded	2 yrs.	1	
Shelter, half-hooded cloak	4 yrs.		
Blouse, wool	2 yrs.	1	
Blouse, summer, cotton	6 mos.	2	2
Trousers, (Breeches), woolen	1 yr.	1	1
Trousers (Breeches), summer, cotton	1 yr.	1	1
Trousers, cotton, padded	2 yrs.	1	
Undershirt	6 mos.	2	2
Underdrawers	4 mos.	3	3
Towels	6 mos.	2	2
Handkerchief	4 mos.	3	3
Footwraps, summer, cotton flannel	4 mos.	3	3
Coat, short, sheepskin	4 yrs.	1	
Valenki (felt boots)	2 yrs.	1	
Insoles	2 yrs.	1	
Footwraps, winter wool	6 mos.	2	2
Undershirt, warm, cotton flannel	2 yrs.	1	
Underdrawers, warm, cotton flannel	2 yrs.	1	
Mittens, trigger finger	1 yr.	1	1
Toque	3 yrs.	1	
Socks, wool	6 mos.	2	2
Boots	8 mos.	1	
Shoes, service	8 mos.	1	1
Puttees, wrap	1 yr.	1	1
Belt, trousers	2 yrs.	1	
Pack	2 yrs.	1	
Strap, overcoat (for making roll)	2 yrs.	1	
Pouch, cartridge	10 yrs.	2	
Belt, cartridge	2 yrs.	1	
Mess kit	10 yrs.	1	
Canteen	10 yrs.	1	
Canteen cover	10 yrs.	1	

¹ In January 1945, the issue of a Housewife, including needles, thread, buttons, and hooks, was completed for all troops.

² Sixty percent of all winter clothing issued in the winter of 1944-45 was new. The remainder was renovated re-issue. All summer clothing, especially leather boots, is renovated during the winter months.

Figure 19. Estimated serviceability and basis of issue of clothing and individual equipment.

hospital trains consigned to an army are received at the regulating station. Arrangements are made for the unloading of supplies for the army base.

Commandants of regulating stations are controlled by the chief of the Army Base, who also commands the station garrison and is responsible for order and security.

Continuity of rail transportation in the combat zone is secured by railroad troops who are charged with hasty repair and reconstruction of damaged or destroyed sections of rail lines. Railroad troops, however, do not operate the trains, except on lines under construction in forward areas. Rail lines occasionally are projected as far forward as division rear areas.

a. Troop movements. The lack of railroad nets in the U. S. S. R. and their generally unsatisfactory condition are limiting factors in the movement of troops and supplies by rail.

U. S. S. R. railroads are of broad gauge. The capacity of a Soviet train, approximately 1,200 short tons, is more than twice the capacity of a comparable train of Western European cars. Soviet troop trains average from 12 to 15 miles per hour, or an average of from 125 to 185 miles per day.

For general logistical data on the principal Red Army units and formations, see Figure 20.

b. Organization, troop movements. Troops may be moved either in separate cars or in troop trains. A unit organized for movement and occupying at least 20 cars is called an "echelon." Each echelon is assigned a number by an agency of the Army Transportation Service. All troops must be familiar with their echelon number since several echelons may be moved on one train.

The unit commander designates a chief for each echelon. Each echelon chief is assisted by an assistant chief of echelon, a medical officer, and, when necessary, a veterinary officer.

The echelon chief reports to the station commandant a day prior to loading to receive a chart of the echelon and loading instructions. He examines loading facilities and reconnoiters routes to the station and to the assembly area. Units occupying assembly areas must comply with local security and camouflage regulations. The echelon chief also familiarizes himself with local anti-aircraft regulations.

He then reports the results of his reconnaissance to the unit commander, prepares a loading plan for his echelon, schedules departure for station, and selects loading teams for the echelon.

Railroad cars containing inflammables or explosives are placed in the rear part of the train between two flatcars. Several cars containing explosives are separated by at least one car of safe cargo. They are separated from troop cars by at least 6 axles, from the forward locomotive by at least 12 axles, and from the rear locomotive by 6 axles.

Units are divided into two echelons for urgent movements. The first echelon contains combat troops, the second includes supplies and supply troops. To accelerate the movement of large numbers of troops, the Red Army uses "combined transport." Track-laying vehicles and the foot- and horse-drawn elements of infantry formations are moved by rail, while the motorized troops move on roads.

c. Railroad capacity. The average daily capacity of main U. S. S. R. double-track lines is from 30 to 40 trains. Single-track lines average from 15 to 20 trains daily.

To increase the capacity of railroad lines during operations, the Soviets operate lines one way only. Trains maintain visual distance. This method increases the capacity of even hastily repaired single-track lines to from 40 to 50 trains daily.

d. Military trains. Standard Russian military trains total 120 axles. However, trains on trunk lines may have from 166 to 172 axles. Cars are either 2- or 4-axle types, of 20- or 55- to 66-short ton capacities respectively. In logistical computations, one 4-axle car equals two 2-axle cars (fig. 20).

e. Loading. Box cars are used to transport personnel, 36 men to a 2-axle car and 72 men to a 4-axle car. These loadings are increased to 50 and 100 men for movements of less than 12 hours. Plank beds are installed for night movements, 36 planks in two tiers in 2-axle cars and 70 planks in three tiers in 4-axle cars.

Three trucks or staff cars are loaded on two flatcars to save space. The middle vehicle spans the gap between the cars. Five empty GAZ-AA 1½-ton trucks may be loaded on two flatcars. The front of the first truck is elevated and rests on a fixed support. The following vehicles are driven up ramps, and the front wheels of each rests in the body of the preceding truck. Wooden wedges are placed under the wheels and the vehicles are wired to each other and to the bed of the flatcar.

Capacities of U. S. S. R. railroad equipment are shown in Figures 21 and 22.

Formation	Strength	Supply requirements (short tons)				Resup- ply	Basic load	Transportation							
		Rations and fodder	Ammu- nition, 1 unit of fire	Fuel, 1 refill	Other supplies (5 per- cent of total)			1 ration, 1 unit of fire, 1 re- fill, and other supplies (short tons)	5 rations, 1½ units of refills, and others (short tons)	Number of vehicles		Limiting speed (m. p. h.)		Maxi- mum axle load (short tons)	Rail move- ment require- ments. Number of stand- ard 120- axle trains*
										Horse- drawn	Motor	Cross country	Road		
R Div.....	9,619	43.5	303.6	11.3	17.9	376.3	742.3	610	226	2.5 to 3	2.5 to 3	1.5	12.0		
R Regt.....	2,474	9.8	65.6	1.0	3.8	79.3	157.9	148	21	2.5 to 3	2.5 to 3	1.5	2.5		
Tk Corps.....	11,964	29.9	797.6	197.4	51.3	1,076.2	2,035.0		1,756	9	18	10.0	30.0		
Tk Brig.....	1,306	3.3	131.9	35.7	8.5	179.4	337.4		289	9	18	7.0	3.5		
Mtz R Brig.....	3,238	8.1	81.6	20.1	5.5	115.3	234.4		333	9	30	1.5	5.5		
Tk Regt.....	543	1.4	72.8	23.8	4.9	102.9	197.0		103	9	20	7.0	1.0		
152-mm SP Arty Regt.....	476	1.2	37.9	25.3	3.2	67.6	145.6		72	6 to 8	18	10.0	1.5		
Mecz Corps.....	17,457	43.6	908.0	239.2	59.5	1,250.3	2,412.5		2,470	9	18	10.0	38.5		
Mecz Brig.....	3,781	9.5	154.4	43.9	10.4	218.2	431.3		436	9	20	7.0	6.0		
Arty Div.....	9,743	24.4	798.5	134.3	47.8	1,005.0	1,808.7		1,623	5	15	7.85	25.0		
AAA Div.....	2,043	3.9	112.0	19.0	6.7	141.6	256.7		306	9	25	4.7	4.5		
Medium G Brig.....	2,128	5.3	153.8	32.8	9.6	201.5	373.4		312	6 to 8	15	7.85	5.0		
L How Brig.....	2,242	5.6	250.0	55.2	15.5	326.3	597.0		420	6 to 8	18	1.62	7.0		
L Arty Brig.....	2,063	5.2	140.5	22.3	8.4	176.4	318.6		373	9	25	1.23	6.0		
Mort Brig.....	1,705	4.3	248.1	16.0	13.4	281.8	463.6		319	9	25	1.5	4.0		
Rkt Regt.....	808	2.0	204.0	5.8	11.5	223.3	350.1		114	9	25	1.5	1.5		
Cav Corps.....	18,210	205.7	712.7	99.6	50.9	1,068.9	2,516.1	1,316	883	3 to 5	3 to 5	7.0	50.5		
Cav Div.....	4,645	62.1	128.6	5.0	9.8	205.5	544.3	404	100	3 to 5	3 to 5	1.5	12.0		
Cav Regt.....	1,144	15.9	24.8		2.0	42.7	122.5	115	3	3 to 5	3 to 5	1.5	3.0		

*The standard Soviet military train consists of railroad cars totaling 120 axles. These cars may be either 2- or 4-axle types (of approximately 20-ton or 50-ton capacities, respectively). In logistical computations, one 4-axle car is equal to two 2-axle cars.

Figure 20. Logistical data on principal Red Army field formations and units.

Loading and unloading time depend largely upon loading facilities and the type of transport. Unloading generally requires one-third to one-half of the time as loading (fig. 23).

In the absence of permanent loading ramps, the Red Army employs various types of portable ramps. Portable ramps require from 2¼ to 4½ hours for assembly. Hasty ramps are constructed when permanent or portable ramps are not available.

2. ROAD TRANSPORTATION

a. Supplies. The use of road transportation for the movement of supplies normally begins in army rear areas. Existing highways in the rear areas are organized into military automobile roads and supply and evacuation roads. Military automobile roads are organized in army rear areas from

Type	Capacity (short tons)	Length (feet)
Boxcar, 2-axle	16.5 to 22	21
Boxcar, 4-axle	55	43
Flatcar, 2-axle	18.5	28
Flatcar, 2-axle	22	29
Flatcar, 4-axle	55	43
Gondola, 4-axle	55 to 66	43
Tank car	44 to 55	(1)
Tank car	33	(2)
Tank car	Over 55	(2)

¹ Most frequently used type.

² Less frequently used type.

Figure 21. Capacities of U. S. S. R. railroad cars.

the supply base of the army to the rear areas of divisions. Army supply and evacuation roads are provided for the shipment of supplies from railheads or unloading stations to the boundary of division rear areas. Only army transport operates on military automobile roads. Army and divisional transport use army supply and evacuation roads.

Depending upon supply requirements, there may be motor transport battalions, regiments, and brigades attached to army groups (fronts) or armies.

Type of load	Boxcars		Flatcars	
	2-axle	4-axle	2-axle	4-axle
Horses	8	14		
Personnel	36 to 40	72 to 80		
Field kitchens, in operation (1 for each 250 men)	1			
Field kitchens, idle			6	
Two-wheel carts			8	
Two-horse wagons			6	
Passenger motor cars			2	3
Tractors			2	3
Motor trucks			1.5	2.5
Reconnaissance tanks			2	3
Light tanks, T-70, or 76-mm SP guns			2	3
Medium tanks, T-34, or 85-mm SP guns			1	2
Heavy tanks, KV-85, or 152-mm SP guns				1
76-mm guns			3	
45-mm antitank guns			6	
122-mm howitzers			3	
107-mm guns			2	4
152-mm howitzers				2
Heavy artillery pieces				1
82- and 120-mm mortars with carts				6

Figure 22. Average capacities of Russian railroad cars by types of load.

Unit	Loading from—	
	Ramps	Platform or ground ¹
INFANTRY		
Rifle battalion without artillery or train...	10 min.....	15 min.
Rifle battalion with regimental artillery or train.	35 min.....	45 min.
Headquarters of rifle regiment with attached units.	45 min.....	1 hr.
Headquarters of rifle division with attached units.	45 min.....	1 hr.
Headquarters of rifle corps with attached units.	45 min.....	1 hr.
CAVALRY		
Cavalry regiment or separate battalion without artillery or train.	30 min.....	45 min.
ARTILLERY		
Battalion of division artillery.....	45 min.....	1 hr.
Battalion of corps artillery.....	1 hr.....	1½ hrs.
Battalion of heavy GHQ artillery.....	1 hr.....	2 hrs.
Battalion of GHQ howitzers.....	1 hr.....	2 hrs.
Battalion of antiaircraft artillery.....	1 hr.....	2 hrs.
ARMORED UNITS		
Company of armored cars, all types.....	1 hr.....	2 hrs.
Tank battalion, all types ²	1 to 1½ hrs.	2 to 3½ hrs.
TECHNICAL UNITS		
Engineer battalion with technical equipment and train.	2 hrs.....	2½ hrs.
Ponton battalion with technical equipment and train.	1½ hrs.....	2 hrs.
Road construction battalion with technical equipment and train.	2 hrs.....	2½ hrs.
Signal regiment with train.....	1 hr.....	1½ hrs.
Chemical battalion with technical equipment and train.	1 hr.....	1½ hrs.
Railroad battalion with technical equipment and trains.	2 hrs.....	2½ hrs.
REAR SERVICES		
Artillery park.....	1½ hrs.....	2½ hrs.
Engineer park.....	1½ hrs.....	2½ hrs.
Medical installations.....	1 hr.....	1½ hrs.
Veterinary installations.....	1 hr.....	1½ hrs.
Motor transport battalion.....	1½ hrs.....	1½ hrs.
Horse-drawn transport battalion.....	1½ hrs.....	2½ hrs.
Tractor battalion.....	1½ hrs.....	2½ hrs.
Depots and bases.....	2 hrs.....	3 hrs.

¹ Time of loading from the ground includes the time required for the construction of loading facilities.

² Loading time depends on type of tanks.

Figure 23. Maximum permissible time for the loading of arms and services on trains.

The strength of motor transport units vary. A motor transport battalion normally has from 100 to 140 trucks and two workshop trucks. They are controlled by the motor transport administrations of army groups and the motor transport divisions of armies.

The following types of trucks are used by the Red Army (figs. 24, 25, and 26) :

Type:	Capacity (Short tons)
Light truck, GAZ-AA.....	1.6
Heavy truck, ZiS-5, ZiS-6.....	2.7 to 3.3
Heavy truck, Studebaker, GMC, and other American models.....	3.7

ARMY GROUPS. Army groups have motor transport pools at their disposal for concentrated use

Type of ammunition	Average weight of box with ammunition (pounds)	Number of units in box	Loads (boxes)		
			Two-horse wagon	Truck	
				1½-ton	3-ton
Cartridges, rifle, without clips.....	57.2	880	18	52	100
Cartridges, rifle, in clips.....	47.3	600	22	60	120
Cartridges, revolver.....	70.4	2,184	14	40	80
Cartridges, submachine gun.....	66	2,304	15	42	84
Cartridges, 12.7-mm.....	61.6	170	16	46	90
Grenades, hand, RGD.....	116.6	50	8	22	47
Igniters for RGD grenades.....	9.3	104	4	12	24
Flares, signal and illuminating.....	88	400	12	30	63
Shell, mortar, 50-mm.....	40.5	14	25	66	140
Shell, mortar, 82-mm.....	110	10	9	24	50
Shell, mortar, 107-mm.....	110	4	9	24	50
Shell, mortar, 120-mm.....	110	2	9	24	50
Rounds, complete, 45-mm.....	79	10	13	36	72
Rounds, complete, 76-mm.....	154	6	6	18	36
Rounds, complete, 76-mm.....	206	8	5	13	27
Rounds, complete, 76-mm.....	127	5	8	22	45
Projectiles, 122-mm.....	154	2	6	18	36
Rounds, complete, 122-mm howitzer.....	193	3	4	12	24
Charges, propellant, 122-mm howitzer.....	121	12	1	3	6
Projectiles, 152-mm howitzer.....	129.8	1	21	43	
Rounds, complete, 152-mm howitzer.....	205.6	2	12	24	
Charges, propellant, 152-mm howitzer.....	136.4	8	3	6	
Projectiles, 152-mm gun.....	165	1	17	34	
Rounds, complete, 76-mm mountain howitzer.....	118.8	5	9	24	48
Rounds, complete, 76-mm mountain howitzer.....	184.8	8	5	15	30

Figure 24. Standard ammunition loads per transport unit.

Type of vehicle	Load capacity		
	Men	Pounds	Gallons
Packs:			
Horse.....		264	
Mule.....		176	
Camel.....		484	
Two-horse wagon.....	6	1,100	
Two-wheeled cart.....	4	484	
Horse-drawn medical wagon.....	2 lying or 4 sitting		
Two-wheeled horse-drawn medical cart.....	2 lying or 3 sitting		
Motorcycle without side car.....	1 to 2	176 to 330	
Motorcycle with side car.....	2 to 3	330 to 550	
Passenger car.....	4 to 6	770 to 1,000	
Truck, 1.5-ton.....	10 to 12	2,860	
Truck ZiS-5.....	16 to 20	5,500	
Truck ZiS-6.....	16 to 20	6,600	
Ambulance.....	4 lying or 9 sitting		
Veterinary ambulance.....	2 horses ¹		
Gas-tank truck ZiS-5.....			787.2
Gas-tank truck BZ ZiS-5.....			787.2
Water and oil tank truck ZiS-5:			
Capacity of water tank.....			270.6
Capacity of oil compartment.....			172.2
Tractor ZiS-3 and STZ-5, drawing strength on hook. ²	5,720		
Tractor CHTZ, drawing strength on hook. ³	1,210		

¹ Prostrate horses—one per vehicle.

² Two 2-ton trailers.

³ Two 3- or 4-ton trailers.

Figure 25. Load capacities of U. S. S. R. transport units.

during major efforts. The size of the pools varies according to projected operations. During breakthroughs, they supply troops directly.

Type of supplies	Unit weight (pounds)	Load table			
		Two-horse cart		Trucks	
		Number of units	Weight (pounds)	1½-ton	3-ton
Biscuits.....	66.0	14	924	50	100
Flour.....	165	6	990	20	40
Grits.....	165	6	990	20	40
Rice.....	176	6	1,056	18	37
Baked bread.....	3.96	308	1,100	945	1,875
Marcaroni.....	47.52	22	1,045	69	134
Sugar.....	180.4	6	990	18	36
Tea.....	99	10	990	26	36
Meat.....			990		
Canned meat.....	82.50	13	1,078	40	80
Sausage.....	111.32	9	1,056	30	60
Fish.....	550	2	1,000	6	
Potatoes.....			1,000		
Dried vegetables.....	89.10	12	1,078	37	74
Soap.....	132	8	1,056	25	50
Dry ration.....		400	1,012	1,300	2,600
Oats.....	110	9	990	30	60
Baled hay.....	74.8	14	1,056	43	82
Loose hay.....			726		
Rawhide.....	44	24	1,056	75	150

Figure 26. Food supplies carried by each unit of transport.

ARMIES. Armies normally have from two to three motor transport battalions. Their load capacity is from 385 to 550 short tons. Frequently, an army will have one motor transport battalion and several separate truck companies.

CORPS. Corps have no motor transport at their disposal.

RIFLE DIVISION. The rifle division is assigned a motor transport company. The company includes three transport platoons and an infantry squad. It has from 60 to 80 trucks, forty-five 1½-ton (GAZ-AA, Dodge, Ford) and fifteen to thirty 2½-ton to 3-ton trucks (Zis-5, GMC, Studebaker).

Rifle divisions requisition local oxen and horse-drawn wagons to supplement assigned motor transport in emergencies. Artillery horses and tractors may also be used for emergency supply purposes.

RIFLE REGIMENTS. Rifle regiments normally have no motor transport for supply. (Rifle regiments do have seven tanks, armed with 120-mm mortars, which transport their own ammunition.) Their transport companies each have 21 horse-drawn wagons. Twelve are used to transport rations and fodder from division; six transport quartermaster supplies (clothing); one is assigned to the finance section; and two are used by the staff.

MOTORIZED UNITS. Motorized units employ motor transport only. The motorized rifle brigade has approximately 27 supply trucks. Frequently, transport and repair organizations of motorized units are

combined into a technical supply company. All motorized units have a special fuel and lubricants supply column, partially equipped with tank trucks.

ANTITANK AND FIELD ARTILLERY. Antitank and field artillery regiments have substantial supply columns. Frequently, they must draw their supplies at army field depots. Field artillery ammunition supply columns draw ammunition at division exchange points. Division artillery regiments are equipped with 30 ammunition trucks. The supply columns of all artillery units are capable of carrying one-half a unit of fire.

b. Troop movements. There are few hard-surface, two-way roads in the U. S. S. R. One four-lane highway does run from Gorkii to Minsk, via Moscow and Smolensk. One-way traffic is ordered on roads when they are used for troop movements. Divisions normally move over two or more parallel routes.

The average numbers of trucks required to move Red Army units are as follows:

Unit:	Number of trucks	
	ZIS-5	GAZ-AA
Rifle battalion.....		100
Artillery battalion.....	180	250
Rifle regiment.....	550	700
Regimental howitzer battery.....		120

For movements of from 60 to 90 miles, rifle divisions are transported at reduced strength. They are not accompanied by horse-drawn trains. For movements in excess of 120 miles, rifle divisions are transported at full strength.

Distance between vehicles normally is 25 to 50 yards; interval between serials, 500 to 600 yards. Distance between vehicles is reduced to 20 to 30 yards for blackout driving. When columns are under enemy fire, or when roads are dusty, distance between vehicles is increased to 50 to 100 yards.

The prescribed interval between rifle battalions is from 500 to 600 yards, between rifle regiments 1,000 to 1,100 yards, and between tank and mechanized battalions and brigades 1,000 to 1,100 yards.

The rate of march is dependent upon the type of trucks, condition of roads, weather, and visibility. Motor columns average from 12 to 18 miles per hour on improved roads and may reach 20 to 25 miles per hour on asphalt highways. Averages of from 3 to 9 miles per hour are maintained in blackout driving on dirt roads.

Motor columns average 125 to 150 miles per day over highways or good dirt road; 180 to 250

miles per day on asphalt highways. A forced march covers 180 to 215 miles per day over average highways. With the use of relief drivers, they can attain 250 to 310 miles per day. On poor dirt roads, columns average 60 to 85 miles per day.

The following road spaces are estimated for principal Russian troop units:

Unit:	Road space
Rifle battalion.....	1,100 yards.
Rifle regiment.....	5,000 yards.
Rifle division.....	16.8 miles.
Artillery battalion.....	2,400 yards.
Artillery regiment.....	5.1 miles.
Artillery brigade.....	17.4 miles.
Tank battalion.....	2,100 yards.
Tank brigade.....	6.6 miles.
Tank corps.....	45 to 50 miles.
Mechanized brigade.....	12.6 miles.
Mechanized corps.....	65 to 75 miles.
Cavalry division.....	9.6 miles.
Cavalry corps.....	42 miles.

c. Organization of road marches. Army group (front) and army staffs normally organize road movements of troop formations (divisions, mobile corps). They issue movement orders to the commanders concerned. The orders include combat mission of unit or formation, purpose of movement, assembly area, loading zone, march schedule, unloading zone, and security instructions.

Commanders are provided with all available information on road conditions, loading and unloading zones, and speed limits for various road sections. Whenever possible, all necessary information is provided commanders 24 hours prior to movement. When roads organized by the army road administration and the motor transport service are to be used, 10 to 12 hours are allowed for the preparation and organization of the movement.

The unit commander, upon receipt of movement orders, promulgates policies regarding route reconnaissance, organization of the march, and loading and unloading zones. His staff and the staff of the motor transport unit organize route reconnaissance, assembly area, and loading and unloading zones. They schedule assembly of units, plan march organization, schedule loading and unloading, estimate transportation requirements, prepare security measures, prescribe march regulations, and assign loading and unloading teams and road and bridge maintenance teams. They prepare instructions for quartermaster, medical, and, if necessary, veterinary services. They issue orders to the commanders of reconnaissance units and the preliminary march

order. The staff of the motor transport unit also prepares plans for fuel supply, maintenance, and assembly of vehicles.

Loading and assembly areas are dispersed to avoid the bunching of vehicles. Battalion assembly areas and loading zones normally occupy 1 square mile, regiments up to 10 square miles, and rifle divisions up to 24 to 30 square miles.

Loading plans are based on the following daylight loading time requirements:

Loading unit:	Minutes
One truck with—	
Horses.....	5 to 7
Guns and lumber.....	25 to 30
Ammunition boxes.....	20 to 25
Carts.....	10 to 12
Rifle battalion.....	40 to 45
Artillery battalion.....	50 to 60

Regiments normally are divided into battalion echelons. Echelons are combined into columns which contain supply and maintenance units, to preserve the tactical independence of each echelon.

Traffic control is carried out by the road service administration through special traffic regulating units. Regulating units each have charge of a road section approximately 40 miles long. Regulating centers serve as temporary command posts for the marching formation. Regulating units also maintain mobile traffic control posts.

Liaison on the march is maintained through the communication net of the traffic regulating units, liaison officers, messenger cars, and personal contact of commanders during halts or on the march. Commanders also observe the movement of their units from liaison planes. To facilitate identification, two or three vehicles at the head and at the end of an echelon are marked with identification numbers. Special panels marked with echelon numbers are also used.

Unloading operations are scheduled so as to avoid delay and waiting. Normally not less than 3 hours is required to unload a regiment. Staffs meet their echelons as they approach the unloading zone and direct them to dispersed individual unloading points.

3. WATER TRANSPORTATION

Water transportation is of minor importance in the Red Army. Where adequate rail or road transportation is not available, waterways are used during the navigable seasons. Chiefs of army water sections are responsible to the Chief of Army Transportation of an army. The chief of an army water section

controls the commandants of landing places and forwarding points.

4. MAINTENANCE

a. Railroad maintenance. The railroad troops of the Red Army are under the control of the Commander of Railroad Troops who is responsible to the Chief of Staff. They are equipped for emergency construction only. Large-scale and special construction is handled by special units of the Peoples' Commissariat of Transportation.

There were at least 20 railroad brigades under the Commander of Railroad Troops in 1944. Each brigade included three railroad battalions, a bridge-building battalion, and 200 men to operate trains over advance sections under construction. Each railroad and bridge-building battalion consists of 3 companies, 200 men each, and a 40-truck motor column.

Railroad brigades cooperate with army group (front) Chiefs of Army Transportation who keep them informed of the clearance of the enemy from rail lines so that they may proceed with the repair work ordered by the Commander of Railroad Troops. The army group Chief of Army Transportation is informed of the progress of work and may request minor construction, such as ramps and sidings. Railroad bridge battalions are capable of constructing bridges up to 220 yards in length.

b. Road maintenance. The poor condition of U. S. S. R. roads requires constant attention by the road maintenance service. As mentioned in paragraph 2, roads in the rear areas of armies and front-line units are organized into military automobile roads and supply and evacuation roads.

Chiefs of military automobile roads are responsible to the chiefs of road administrations. Vehicles used for supply and evacuation on military automobile roads are under the operational control of the Chief of the Military Automobile Road.

Army supply and evacuation roads are organized according to the orders of the Chief of the Army Rear Services.

Supply roads in rear areas are divided into sections maintained by army road maintenance organizations, which are controlled by road section commandants. During major operations, these are reinforced by special units from the army group (front) rear area. The road construction units

are included in the army group and army rear services.

An army group road administration has at its disposal one to two road construction regiments of two to three battalions each, one security and antiaircraft battalion, one traffic control company of women armed with submachine guns, and several labor battalions recruited from among local civilians.

Bridge construction brigades may be detailed to army groups (fronts) by the Main Administration of Roads of the Red Army for the construction of large bridges.

Army road sections are provided with two to three road construction battalions. They differ from the battalions of road construction regiments in that a traffic control company is attached to each battalion. Labor battalions are recruited locally as needed. Bridge construction battalions, capable of constructing bridges up to 110 yards in length, are attached as required.

In addition to their principal mission of maintaining and operating roads, road section commandants assist in the issue of winter clothing to passing troops (fur caps, mittens), supplementary food and fuel. They organize disinfection chambers, turkish baths, emergency medical-aid stations, and technical repair stations at traffic control posts. They also organize entrucking points for occasional evacuation of casualties in returning empty vehicles.

Section IV. MEDICAL AND VETERINARY SERVICES

1. ORGANIZATION AND EVACUATION

The Red Army medical service is well organized but poorly equipped. It is designed to bring medical aid as far forward as possible for early treatment and evacuation of casualties.

Higher units evacuate casualties from lower units. Stretcher teams evacuate casualties from the battlefield to aid stations. Unit commanders are responsible for evacuation from aid stations. Battalions evacuate casualties from company areas to battalion medical stations. Regiments evacuate casualties from battalion to regimental medical aid stations. Division transportation is employed for evacuation from regimental to division medical stations.

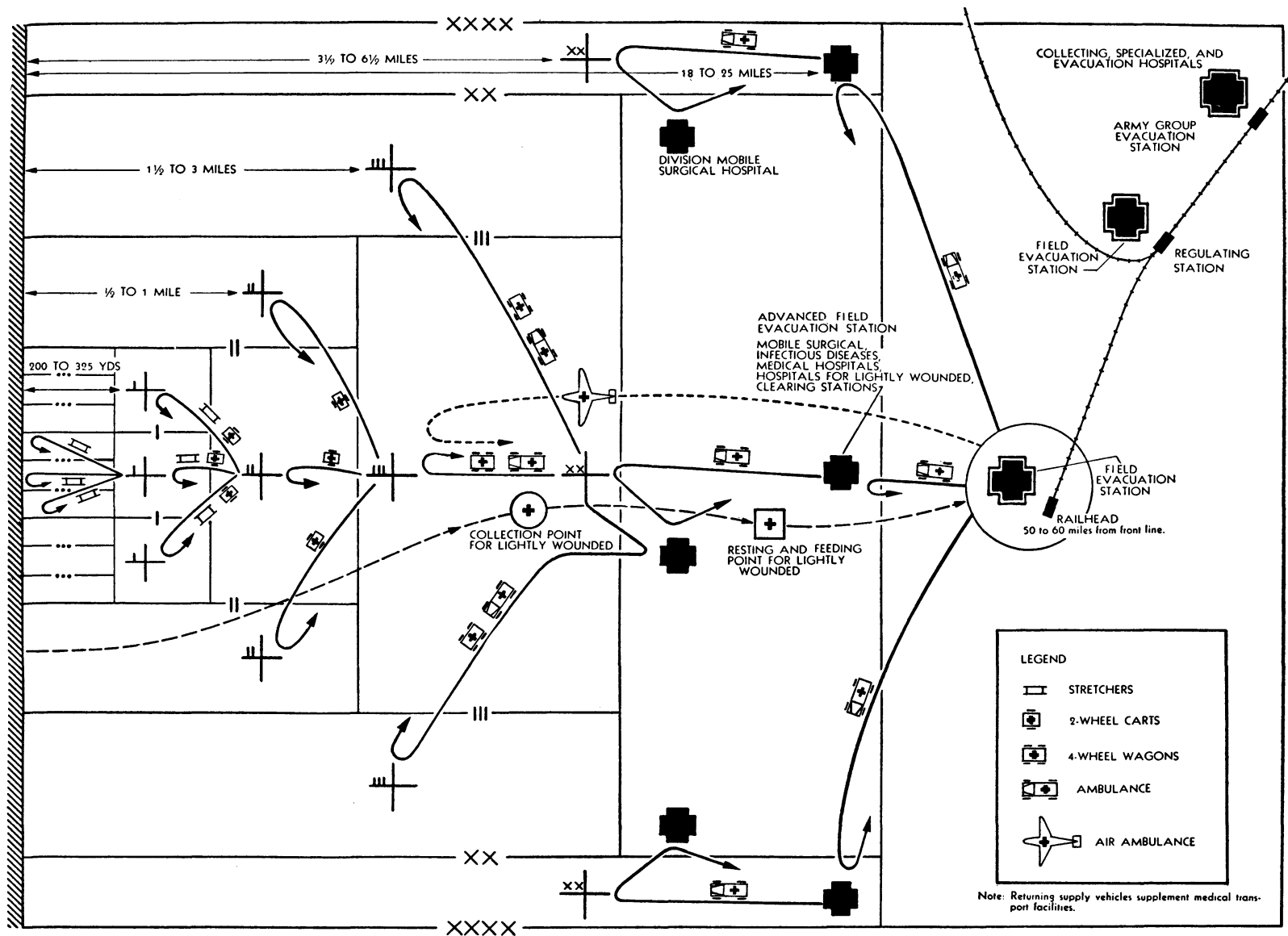


Figure 27. Channels of medical evacuation in the Red Army.

Specialized hospitals are established under the Red Army medical service in the following categories:

- Orthopedic surgery.
- Neuro surgery.
- Plastic surgery.
- Temporo-maxillary-mandibular surgery.
- Thoracic surgery.
- Venereal diseases.
- Burns.
- Psychiatry.

a. Channels of evacuation. (See Figure 27.)

Normally, battalion aid stations are established within 1 mile of the battle front. Two medical officers are assigned to each active battalion whenever possible. One directs evacuation of rifle company casualties and administers first aid. The other operates the battalion aid station.

Rifle company casualties are evacuated by stretcher bearers. Approximately four stretcher bearers are attached to each company. Stretchers on wheels, dog carts and sleds, ski stretchers, and horse or motor ambulances are also used for battlefield evacuation. In mountain terrain, pack animals are used to evacuate casualties located by trained dogs. Ambulance planes are used when necessary.

Casualties normally receive medical attention within 1 hour after being wounded.

Regimental medical stations are established within 1½ to 3 miles from the front lines. A medical company is attached to each rifle regiment. It evacuates casualties from battalion aid stations to the regimental aid station. Empty battalion and regimental supply vehicles are used to evacuate casualties when the medical company's motor transport cannot reach battalion aid stations. Horse-drawn transport for evacuation is requisitioned locally, particularly in winter. The regimental aid station classifies and tags casualties, checks bandages, gives initial surgical treatment, and holds temporarily casualties who cannot be evacuated safely. Casualties are tagged with red or blue tags numbered "I" or "II," indicating the priority in which they are to receive medical treatment and are to be evacuated.

The division medical battalion establishes a division medical station from 3½ to 6 miles from the front lines, usually in a regimental rear area. It also evacuates casualties from regimental aid stations to division aid stations or to attached mobile surgical hospitals, approximately 18 miles behind

the front line. It maintains a section in the divisional rear area for the lightly wounded and sick.

From division aid stations or attached mobile surgical hospitals, casualties are usually evacuated to army casualty clearing stations, which are normally established near roads or railheads.

From clearing stations, casualties are evacuated to army mobile surgical hospitals, to field hospitals attached to divisions, or to collecting hospitals in the army rear area. Contagious disease cases are segregated in special hospitals in division or army rear areas. Casualties whose condition is not critical and who can be returned to action soon and casualties whose condition precludes immediate evacuation are kept in hospitals in division or army rear areas. Casualties requiring prolonged hospitalization and those whose condition precludes return to active service are evacuated to civilian hospitals in the zone of interior for hospitalization and rehabilitation.

Hospitals for slightly wounded who are expected to return to duty within 10 to 15 days are established in division and army rear areas.

Army group evacuation stations, army evacuation stations, and advance field evacuation stations are established in army group and army rear areas to treat and evacuate casualties received from army casualty clearing stations or directly from division aid stations. Army group and army evacuation stations normally are established near army regulating stations. Advance field evacuation stations normally are located near railheads.

An army group or army evacuation station includes a headquarters, collecting and evacuation hospitals, a laundry and disinfecting section, a medical committee, and ambulance units.

An advance field evacuation station includes a headquarters, the army clearance station with a capacity of 500, and two to three mobile field hospitals.

Army group (front) Chiefs of Medical Service attach hospital trains to field evacuation stations. Many hospital trains are capable of functioning separately. They are shifted to areas where large numbers of casualties are anticipated.

The army Chief of the Medical Service plans army medical installations, evacuation, treatment of wounded, and prophylaxis in accordance with instructions of the army group (front) Chief of the Medical Service. The medical service at army level includes an epidemic control section to prevent and

control epidemics. There are one to two special hospitals for contagious diseases in the rear area of each army. Special disinfecting companies are responsible for sanitary conditions.

Troop units and medical installations are supplied by medical field depots.

b. Medical service, offensive operations.

Medical services during all phases of the planning and conducting of offensive operations are closely planned and supervised.

PRELIMINARY PLANNING. Prior to a projected operation, the medical service ascertains the number of beds which can be made available in the various types of hospitals established in army group (front) and army rear areas. All patients permanently disabled and those requiring prolonged treatment are evacuated to the rear.

An adequate reserve of field hospitals is provided by the army group (front) medical service. A portion of the available army field hospitals may be placed at the immediate disposal of the army group (front) Chief of the Medical Service and moved near the lines of communication to the rear area of the projected operation. Medical vehicles of armies not involved in the main operation may be placed in the transport reserve of the army group (front). Special attention is given hospital trains. Their distribution at railroad stations must be coordinated with the section of army transportation to ensure their movement at the beginning of operations.

PLAN OF OPERATION. The army group (front) Chief of Medical Service completes his plan when he receives detailed information on the projected operation from the Commander or Chief of Staff. He places special emphasis on the estimate of the number of mobile field hospitals required, the number of beds in army group (front) and army hospital bases, available transport of all types, available medical personnel, and epidemic control measures.

Mobile surgical field hospitals of the army group (front) reserve are distributed in army rear areas in accordance with the number of divisions included in each army and with casualty estimates. These hospitals are controlled by army Chiefs of the Medical Service during the operation. A number of mobile surgical field hospitals are kept in army group (front) reserve. The number held in reserve depends upon their availability, but normally it is felt that there should be at least two mobile surgical

field hospitals in army group reserve for each army engaged in the operation.

Each army also is provided with hospitals for slightly wounded, therapeutic hospitals, contagious disease hospitals, advance field evacuation stations with clearing stations, a collecting hospital, and a number of evacuation hospitals.

The Soviets estimate that 10 beds must be provided for each 100 men engaged in an operation. Fifty to sixty percent of the beds are in mobile field hospitals and hospitals for slightly wounded. The remainder are in evacuation hospitals. In addition, they estimate that 5 to 6 beds for every 100 men engaged in the operation will be required in the army group (front) hospital base, including evacuation hospitals, collecting hospitals, and hospitals for the slightly wounded. Should small railroad capacity impede evacuation from the area, the estimate of required beds is increased accordingly.

Requirements for medical motor transport depend largely upon the available road nets. The Soviets believe that each attacking army should be supported by a motor ambulance company, with an equal reserve at army group (front) headquarters. Horse-drawn vehicles normally are not used by army group or army medical services. However, it is considered advisable to include a horse-drawn reserve at army group medical service headquarters for concentrated evacuation in the immediate rear of front-line units during combat.

The requirements for hospital trains and railroad evacuation depend upon distances between loading and unloading stations and the time required for a round trip. Planes are frequently used at army group (front) and army level for the evacuation of serious casualties, particularly if ground evacuation is over long distances.

The army group (front) Chief of the Medical Service prepares the general plan for evacuation, hospitalization, epidemic control, sanitary measures, and distribution of medical units in accordance with the plan of operation (fig. 27).

Basic provisions of the medical service operation plan must be approved by the deputy of the army group (front) Commander for the Rear Services jointly with the political member of the Military Council in time to complete preparations prior to the projected operation.

CONTROL OF OPERATION. Successful functioning of the medical service during offensive operations, the Soviets emphasize, depends largely upon the con-

trol exercised by the army group (front) Chief of the Medical Service. He must be informed continually of the combat situation and must maintain close contact with the medical service of the army or armies engaged as well as with his own hospital base. For this reason, it is considered expedient for the army group (front) Chief of the Medical Service to remain with the first echelon, although existing regulations prescribe that his headquarters are included in the headquarters of the rear services and will remain with the second echelon of the army group command.

The medical operation group (within the first echelon), headed by the Chief of the Medical Service or his deputy, is charged with the obtaining of operational information. It is also responsible for liaison with and direction of the medical service of individual armies.

The army group (front) medical headquarters is responsible for the army group hospital base, railroad evacuation, and liaison with higher medical authorities. Special emphasis is placed on close coordination with railroad and motor transport agencies.

SERVICE DURING OFFENSIVE ACTION. During the operation, the army group medical service headquarters is also responsible for the shifting of medical installations to meet changes in operational requirements and for sanitation in occupied areas. Special emphasis is placed on the development of adequate army group and army hospital bases, and the timely evacuation from those hospitals by well-planned and regulated use of hospital trains and returning empty supply trains. Close and continuous contact with the army transportation service is mandatory.

The Soviets frequently shift medical installations to regulate the distribution of casualties to hospital bases. Thus the hospital bases of armies engaged in secondary operations and those of the army group which are located on secondary evacuation routes are utilized to the fullest extent.

While installations are being moved, steps are taken to receive casualties at the old location until deployment is completed. This is achieved by deployment from the rear. Part of the undeployed mobile surgical field hospitals are moved forward rapidly to follow advancing units. Evacuation hospitals from the army group (front) reserve join army hospital bases.

Timely reinforcement of army hospital bases with evacuation hospitals has proved effective. Consequently, the Russians recommend that armies engaged in the main effort should be reinforced by an adequate number of evacuation hospitals and that the army group Chief of the Medical Service should retain a number of undeployed evacuation hospitals at his disposal for use as the attack develops.

When a deep penetration into enemy territory is accomplished, part of the evacuation hospitals from the army group (front) and army hospital bases are moved forward to the new army hospital base. The army group hospital base is then developed from the army hospital base evacuation hospitals remaining in the old army hospital base area. This method guarantees continuous treatment and evacuation.

The Soviets point out that successful maneuvering depends largely upon the capacity of army group (front) and army hospital bases and an adequate reserve of undeployed hospitals at the beginning of an operation.

2. VETERINARY SERVICE

Sick and wounded horses which do not require special treatment and are able to follow their units are not evacuated.

Regimental veterinary hospitals usually are established near the rear boundary of regimental rear areas. Divisional veterinary hospitals are established near the rear boundaries of division rear areas. Because 2 to 4 hours are required for a wounded horse to reach a regimental veterinary hospital, normally located from 5 to 7 miles from the battle line, the two echelons of the veterinary service have proved insufficient. The Russians recommend that advance veterinary aid stations be established by regimental veterinary hospitals. They are located on the line of evacuation nearest the main concentration of horses, normally near the regimental ammunition dump. To facilitate evacuation, division veterinary hospitals may detail evacuation sections which are located at the boundary of the regimental rear area.

From division veterinary hospitals, horses are evacuated to veterinary evacuation and field hospitals in army rear areas. The next echelon of evacuation is the army group (front) veterinary hospital bases.

Section V. MAINTENANCE AND MISCELLANEOUS SERVICES

1. MAINTENANCE

a. General. Maintenance in the Red Army is facilitated by standardization of types and models which enables individual depots to carry small stocks of parts. Maintenance facilities primarily handle three categories of matériel: automotive and armored vehicles, weapons and equipment, and clothing.

Modification of the maintenance service during the war resulted in an echelon system. Prior to 1943, all vehicular repair was controlled by the Main Administration of Armored Equipment. When the Main Administration of Motor Transport of the Red Army was organized under the Chief of the Rear Services of the Red Army, it also was charged with vehicular repair. Because the same workshops handle the repair of trucks, tanks, and tractors, it would appear that all repair of automotive and armored vehicles has been placed formally under the Main Administration of Motor Transport. It is presumed, however, that the Main Administration of Armored Equipment retains considerable control over the repair of its own matériel.

To simplify maintenance, the Red Army has developed two basic types of mobile unit repair shops. Type A is a GAZ-AA truck with a lathe, tools, welding equipment, and spare parts. Type B is a ZiS-6 truck with a lathe, tools, replacement parts, crane, and battery charger. Workshop companies are composed of varying numbers of these trucks.

b. Tank maintenance. Special attention is given the maintenance of medium and heavy tanks. Since 1941, the Red Army has been forced to increase its mobile maintenance and repair echelons six-fold. These echelons were able to handle approximately 50 percent of required services and repairs at the outbreak of the war. In 1945, they handled 92 percent. Previously, the Soviets depended primarily upon first echelon repairs, cannibalization, and improvisation in conjunction with major repairs at fixed bases. They now employ a complex system of maintenance and evacuation which places great emphasis upon unit replacement and subsequent specialized repair.

Tank companies (10 medium or 5 heavy tanks) are serviced by unit mechanic teams. Battalions (21 to 31 medium tanks) have workshop platoons. Brigades (63 medium tanks) and regiments (21 heavy tanks) are serviced by technical maintenance

companies. Corps (200 to 250 mixed vehicles) are maintained by mobile repair bases. In addition, tank armies and corps groups have mobile plants for general and specialized work including electroplating, and motor, transmission, clutch, and electrical reconstruction.

The present routine of preventive maintenance for Red Army armored vehicles approximates U. S. practice. Outstanding differences are the comprehensiveness of Soviet first echelon inspection and the reduced intervals between second and third echelon services (25, 50, and 100 hours as compared with 50 and 100 hours in the U. S.). Overheating and winter maintenance are given special attention.

FIRST ECHELON MAINTENANCE. Tank crews conduct first echelon maintenance under supervision of platoon and company commanders. Maintenance includes check of ammunition, fuel, oil, and water and careful examination of vehicles. Check requires from 2 to 4 hours daily.

SECOND ECHELON MAINTENANCE. Second echelon maintenance is performed in the battalion, brigade, and regiment every 25 and 50 hours of operation. It includes cleaning of motors and other assemblies, refueling and lubricating, examination of all connections and regulating mechanisms, lubricating of all friction surfaces, cleaning all filters, and completion of a series of maintenance procedures. In combat under unfavorable climatic and terrain conditions, second echelon maintenance is performed as often as every 10 to 15 hours of operation.

THIRD ECHELON MAINTENANCE. Third echelon maintenance is performed in regiments, brigades, and corps every 90 to 100 hours of operation. It includes change of transmission lubricant, valve adjustment and a check of the fuel injection system.

Prior to extensive operations, thorough maintenance is carried out, including partial removal of hull armor and over-all checking and cleaning. All echelons cooperate in this check. Centralization by battalion is recommended. After a battalion has been serviced, its vehicles are given a 20-hour test run.

The Red Army has made careful provisions for winter operation of armored vehicles. Heating devices include auxiliary interior water heating. Dual kerosene lamps heat water coils, installed in the crew compartment, which are connected to the cooling system. Fixtures pre-heat the air for fuel injectors. All motors are pre-heated before starting.

Prior to movement over ice or snow, tracks are loosened and idlers and bogies are cleaned to avoid breaking of shoes. Grousers are used for movement over broken terrain.

c. Tank recovery. The maintenance service also recovers damaged armored vehicles. Recovery battalions recover disabled tanks and evacuate them to an assembly point at the army supply base. Vehicles are then sent to the zone of interior for major repairs or disposal as scrap.

Recovery battalions normally are equipped with 40 trucks and 100 tractors. Companies from recovery battalions are attached to armies. Concentrated employment of recovery units, controlled from special observation posts, results in rapid evacuation of disabled tanks. Premiums are paid for recovered tanks by the transport administration. Crews are punished for abandoning disabled tanks.

d. Weapons maintenance. The Chief of Artillery Supply is responsible for weapons maintenance and repair. Artillery weapons are repaired in army group, army, regimental, and battery workshops, which may work together or independently. An echelon system, similar to the automotive echelon repair system, exists.

Army groups (fronts) have repair shops on railroad cars at their disposal for medium repairs on infantry and artillery weapons. Weapons requiring major repairs are collected and forwarded by the Main Administration of Artillery to repair plants in the zone of interior. Weapons damaged beyond repair are sent to foundries for scrap.

In armies, a mobile repair shop functions under the weapons repair group of the artillery supply section. This shop consists of several light trucks, from 20 to 30 armorers, and 2 to 3 opticians.

Army repair shop functions include:

- Replacement of major parts and assemblies.
- Cannibalization of damaged weapons.
- Re-riveting of fixed joints on a larger scale than can be done by regimental repair shops.
- Lathe adjustments and manufacture of parts.
- Electric welding.

In peacetime, regimental repair shops which have the necessary equipment may perform similar services.

Division artillery is provided with a divisional field workshop. It includes one truck with several armorers. Division workshops perform light repair and, when necessary, partial medium repair of weapons and equipment. Mobile repair shops may

perform emergency repairs on the battlefield. Normally division artillery and attached army workshops are located at division supply points.

Comparatively few technicians are assigned for the repair of infantry weapons. Two small arms armorers, two artillery armorers, and four technicians assigned to the ammunition depots of division supply points perform light repairs.

e. Clothing maintenance. Maintenance of clothing is handled by laundries and workshops of the intendance service. A shoemaker and a tailor under the regimental Chief of Intendance perform necessary repairs. Divisions have a laundry and larger workshops. Armies are provided with two laundries and workshops capable of large-scale repair. The intendance administration of an army group (front) and the main intendance administration of the Red Army send clothing and boots to factories in the zone of interior for repair.

2. CAPTURED WEAPONS

A special organization for the collection, repair, and transportation of captured weapons exists independently of the rear services. It is also responsible for the recovery of Soviet weapons. Its agencies operate at all levels of command.

Special commands for captured weapons are attached to regiments by divisional groups for captured enemy weapons. The collection and transportation of captured weapons are the responsibility of companies for captured weapons at army level. Battalions and brigades for captured weapons and evacuation companies and trains are attached to army groups (fronts) and armies.

Transportation for captured weapons and damaged Soviet matériel is provided by army group and army Chiefs of Army Transportation, who place returning empty rolling stock at the disposal of captured weapons units.

3. PRISONER-OF-WAR EVACUATION

Basic orders for the evacuation of prisoners of war were issued in January 1943. Prisoners are forwarded rapidly from lower units to army rear areas. Little time is allowed for interrogation in battalions, regiments, and divisions.

Prisoners normally are marched to army assembly stations. Occasionally empty trucks are used to transport them. Prisoners are turned over to the NKVD in army rear areas. The NKVD handles further evacuation with the cooperation of the Chief of Army Transportation.

4. POSTAL SERVICE

All Red Army mail was handled by the Peoples' Commissariat of Signal Communications until 1942, when it was subordinated to the main administration of the Chief of Signal Communications (Peoples' Commissariat of Defense).

The army postal service is also dependent upon the Formations Division of the General Staff for assignment of APO numbers and postal security measures.

Field post offices at army group (front), army, and division levels are assigned trucks to transport mail from railroad stations to units.

Section VI. ADMINISTRATIVE PROCEDURE

1. BASIC STAFF PROCEDURE

The basic documents through which administration of the rear services is carried out are the administrative estimate, the administrative order, and the periodic reports.

Upon receipt of preliminary instructions concerning a projected operation from the Chief of Staff of the next higher headquarters, the Chief of the Rear Services prepares an administrative estimate of all supplies required for the operation. Simultaneously, the Chief of Staff prepares an operations plan. Both make oral reports to the Commander.

When a final decision is reached by the Commander (or the Military Council of an army), the Commander and the Chief of Staff issue oral instructions to the Chief of the Rear Services and to the chiefs of artillery, armored troops, and technical services. Occasionally the instructions are issued only to the Chief of the Rear Services, who forwards them to the other services.

The Chief of the Rear Services and the chiefs of artillery, armored troops, and the technical services issue preliminary instructions to their subordinate organizations and installations.

Material for the administrative order and special instructions is prepared by the Chief of the Rear Services. The material is based partly on data furnished by the chiefs of the individual services.

The Commander, his Chief of Staff, and the Chief of the Rear Services sign the administrative order and special instructions. Army administrative orders are issued to rifle, tank, mechanized, and cavalry corps, the chiefs of artillery, armored troops, and technical services, adjacent armies, and army group

headquarters. The special instructions are issued to commandants of railroad supply stations, road maintenance divisions, motor transport units, motor transport divisions maintenance group, individual supply and medical organizations, and to local civil authorities.

Execution of the administrative order is supervised by the Chief of the Rear Services who receives copies of orders, requisitions, and reports of subordinate staffs and organizations.

Special attention is given to the rear services of tank, mechanized, and cavalry corps. Their rear services are coordinated with those of the formations in whose zones the mobile forces are operating. Consideration is given to their specialized supply requirements, and advance plans are made to guarantee the continuous flow of supplies to mobile formations after the break-through is accomplished.

2. ADMINISTRATIVE ESTIMATES AND SUPPLY PLAN

The administrative estimates of the Chief of the Rear Services normally are submitted to formation or unit commanders prior to the drafting of the Commander's administrative decision.

They include requirements and availability of basic supplies, schedule of issue for allotted matériel, possibility of utilizing local resources, delivery schedule for supplies and available transport, disposition of rear subdivisions, extension of rear area and daily assignment of supply bases, items to be evacuated, and security of the rear area.

The Chiefs of the Rear Services and Technical Deputy Commanders of tank and mechanized formations prepare their plans for the organization of the rear services. Their plans are based on the tactical and rear service decisions of the formation Commander. Preliminary work is carried out simultaneously with the preparation of the combat plan.

On the basis of available information, the Chief of the Rear Services issues preliminary instructions to his subordinate chiefs, notes data of the administrative order of higher headquarters on situation map, makes map reconnaissance for probable supply roads, determines tasks of rear services for each phase of operation, drafts a proposed decision for the commander on employment of rear services, prepares a report for the Commander and a draft of the administrative order, organizes necessary coordinations with the chief of the rear services of adja-

cent units. If necessary, he submits requisitions to higher headquarters for additional supplies.

The supply plan, which provides basic information for the administrative order, consists of a number of documents including a map of the rear area, a report to the Commander from the Chief of the Rear Services, a supply schedule, and a chart of planned displacement of rear area installations.

The supply plan includes the following:

- Supply requirements for each phase.
- Supplies to be carried by units.
- Reserves to be accumulated for operation at supply base.
- Supply routes.
- Organization of transportation for each phase.
- Displacement of rear services.
- Security measure for communication routes and rear area installations.
- Signal communication with the rear.
- Axis of communication for the Chief of the Rear Services and the chiefs of services.

3. COMMAND DECISION

The Commander's decision for the employment of the rear services is based upon his estimate of the tactical situation, his Chief of Staff's tactical estimate, the administrative estimate, and information and recommendations of his Chief of the Rear Services. (When tank or mechanized formations are attached, the army Commander also receives information and an estimate from a deputy for those formations.)

He considers enemy capabilities and possible lines of action, effect of enemy fire or attack on rear area installations, probable matériel and personnel losses, ammunition and fuel requirements, availability and condition of transport and equipment, supply and evacuation road nets, security measures for lines of communication and the rear echelon, medical evacuation, priority of supply and maintenance, etc.

The Commander's decisions regarding the rear services include:

- Organization of supply and evacuation roads.
- Rates of expenditure of fuel and ammunition for each phase.
- Supply requirements of break-through units.
- Displacement of rear echelon units.
- Supplies to be accumulated in units and supply points prior to operation.
- Priority of supply and maintenance.

Refueling and evacuation of tanks for each phase.

Medical evacuation.

Organization of security for rear services and lines of communication.

Readiness deadlines.

4. ADMINISTRATIVE ORDERS

The administrative order, based upon the Commander's decisions and the supply plan of Chief of the Rear Services, is issued simultaneously with the combat order. It is drafted for the Commander by the Chief of the Rear Services and is checked by the Commander and his Chief of Staff. The administrative order is signed by the Commander, the Chief of Staff, and the Chief of the Rear Services.

The army administrative order includes:

- Location and operation schedules for supply points and evacuation terminals.
- Disposition of rear area installations.
- Supply and evacuation routes.
- Boundary lines of rear areas.

Division administrative orders also include:

- Boundary lines of regimental rear areas.
- Location of reinforcements.
- Daily rates of expenditure for ammunition, fuel, rations, and fodder by unit.
- Organization and schedule of supply.

Regimental administrative orders also include:

- Distribution schedule for hot food.
- Disposition of evacuation points.
- Evacuation schedules for personnel, horses, and matériel.
- Utilization of local resources.
- Displacement plans for second echelon of headquarters.
- Schedule of periodic reports.

Fragmentary orders or individual instructions may be issued instead of the full administrative order. The location of regimental ammunition dumps and division supply points are included in regimental combat orders.

An administrative order for mechanized formations engaged in break-through operations covers only the first phase of the operation, normally the first day. During the action, the Chief of the Rear Services issues separate instructions based on the general plan for organization of rear services as approved by the Commander of the mechanized formation.

The administrative order for a break-through operation includes:

- Location of supply installations.
- Amount of supplies to be issued.
- Supply issue schedule.
- Supply and evacuation routes.
- Organization of transportation.
- Supplies to be carried by units.
- Displacement of rear services.
- Rate of expenditure of ammunition and fuel.
- Resupply points and schedules.
- Priority of repair and evacuation of matériel.
- Repair deadlines.
- Organization of medical evacuation.
- Organization of collection of captured weapons and matériel.
- Combat disposition of second echelon of command.
- Schedule and content of periodic reports.

The administrative order as drafted by the Chief of the Rear Services of tank or mechanized corps is submitted to the Corps Commander in the presence of the Chief of Staff and the Commander's technical deputy.

The Soviets recommend that preliminary instructions be issued to the Chief of the Rear Services of subordinate units and the commanders of various rear service installations in addition to the administrative order.

Efficient operation of the rear services during combat is dependent upon close control. It is emphasized that a tank corps Chief of the Rear Services should remain with the corps' first echelon of command not only during the period of organizational

operation, but also during the actual break-through operation. Liaison with army group (front) or army rear services and control of rear echelons behind infantry units can be maintained by the chief of one of the services, preferably the tank corps Chief of Intendance. All other personnel of the rear and technical services move through the breach with the corps.

Radio and armored cars are used to maintain liaison between tank or mechanized corps' first and second echelons during the first phase of break-through operations. Air liaison has been found most satisfactory during later phases. Flexibility of rear service operation during break-through operations is stressed.

5. PERIODIC REPORTS

Contents of periodic reports for a formation are determined by the higher headquarters.

Periodic reports normally include:

- Location of supply points and evacuation terminals (for divisions only).
- Supply and evacuation routes.
- Disposition and condition of transport.
- Disposition and condition of rear area units.
- Expenditure of ammunition and fuel.
- Matériel losses.
- Personnel and horse strength reports.
- Supply of ammunition, fuel, rations, and fodder.
- Utilization of local resources.
- Medical and veterinary situation.
- Security of the rear (for divisions only).
- General conclusions regarding supply and maintenance (for divisions only).